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We Are Wasters

The wastefulness of the people of this country has become proverbial. Our present national enemies—Germany, Japan, and Italy, particularly, have pointed the finger of scorn at us. The subjects of those countries have been trained through the generations to save and conserve. They will not tolerate waste.

This national habit will be an important factor in the final outcome of the present struggle. The nation which holds out longest will be the nation which can make the best use of its national or acquired resources. The victor will be the conserver. This is a fundamental truth which cannot be ignored.

It is not going to be easy for us to change our life-long, age-old habits. It cannot be done entirely by government regulation, no matter how strict, in this democracy. Cooperation, ingenuity and determination on the part of the individuals and groups is necessary. Industry has a major part to play, not only as a patriotic duty but as a matter of self-preservation.

If, during the month of March, a chief executive of every industrial concern in the state would take a trip around his plant with a scratch pad in hand, the job would be done. Let him look for scrap in the yard—that idle equipment which has been in Department X or the storehouse for the last fifteen years—that unused counter-shafting on the ceiling—those hangers on the wall—that unused hardware in Department B—that junk in Mill 2. Let him be on the look-out for wasteful practices.

Such a chief executive will see things that will surprise him and bring him to a realization that he has not been quite so observing as he thought he was. If we can instill in every one in our individual organizations the desire to conserve, we shall then have the true urge necessary for victory.

"But that trip will take time and I'm busy," you say. To be sure, but then, you will be doing what Seth Low Pierrepont, Chairman of the State Salvage Committee and others who are working so hard on this matter for all of us, hope you will do.

Alfred P. Fuller,

President.

DEFENDING THE FACTORY FRONT

What Plant Protection Means, and What Connecticut Defense Plants Can Do About It

The enemy is without: he may sneak into your factory and plant a time bomb—he may come from the air and drop destruction upon your roof.

The enemy is within: he may throw sand or tools into your machinery—he may put kerosene in your fire extinguishers and dynamite in your sand pails*—he can slow up production by bad work—he is sure to be listening at the bench, on the machine, in the lavatories, in the office for anything that will help him keep America at a disadvantage!

What are you, as part of the arsenal of democracy, doing to foil the enemy?

* This has happened in Connecticut, but we can't tell you where.

HUNDREDS of Connecticut concerns doing war work have by this time become aware of the need for adequate protection of their property and personnel, day and night. The sorts of organization they have set up and the steps taken to meet the emergency would, if recorded, easily fill several books with varied and possibly conflicting material, inasmuch as no uniform program has been imposed by the government or proposed by local defense councils.

Plant protection began to have a meaning for certain large companies directly connected with defense a year ago, but the majority of defense manufacturers in the state did not become concerned until the Air Raid Warden schools were held last July, or until five months later when war was declared. Now they are somewhat belatedly rushing to establish company police systems, buy badges, take photographs and fingerprints, train first aid workers, improve their fire-fighting equipment, eliminate fire hazards, and whatnot.

The order of the day is: Be prepared! Protect your plant and employees against all emergencies! War production must be maintained!

Yet it is one thing to hear the order, another to act upon it—for this business of plant protection is more complicated and comprehensive than the novitiate thinks. One fact is certain: the largest, slowest and hardest job of the whole defense effort is doing the heavy headwork in advance. To know the hazards, to interpret these in terms of your own particular plant, to establish a protective plan to combat them, to organize, select, and train your personnel for the purpose—in short, to know what you want to do and how you will be able to do it is to achieve the blueprint stage which is the prerequisite of any practical action or expenditure. That is the first defense job for any plant.

Such a preliminary survey can be broken down into five general problems:

(a) official requirements, especially regarding blackout, and other specific instructions from the War and Navy departments;

(b) sabotage;

(c) hazards inherent in war production, particularly the overloading of operational systems—with the repercussions in

(d) plant fires, or

(e) accidents requiring medical attention.

Local Protection Committees

In many towns industrial protection committees have already been formed to help concerns, small and large, in their approach to these problems. Organized under the local defense councils, such committees represent and are made up of plant defense delegates from all factories in the community. Their general functions are:

1) to deal with the more than 1000 industrial units of the state in community groups; thus com-

munity as well as individual problems can be discussed and solutions reached.

2) to pass on to the smaller, less adequately organized units the experience and advice of the larger, better organized ones.

3) to assure that all units in a community are provided with sufficient protection from the standpoint of fire, police, air raid, and medical facilities, and thus remove a large load from the established local services.

The possibility of an Atlantic Coast air raid is definite. The probability, at any particular time, is of course any one's guess; but some military experts have predicted that enemy attacks will be made before summer, either by long-range bombers or planes based on aircraft carriers. Nevertheless, it is least likely to be in the daytime. But with the memory of Pearl Harbor and other equally unprepared places still vivid in American minds, it would be the height of stupid complacency not to realize the essential importance of taking all practical precautions.

Just as the air raid warning system is a direct responsibility of the War Department, so it is to be expected that in due course there will issue from Washington official instructions on such matters as blackout and camouflage. So far the government, acting through the Army and Navy and Office of Civilian Defense, has depended upon voluntary cooperation, always preferable to bureaucratic coercion, and has let local civilian authority work out the details.

For example, the air raid warning signal has been through many changes during its short life. Connecticut was perhaps the first state to arrange for a uniform type of warning. Washington then suggested a quite different signal, and in the meantime other cities and states were arranging a multitude of conflicting signals. Finally, the New England states decided they at least would have uniformity, and agreed on the following official signal of public warning:

DANGER—The alarm signal will consist of a series of short blasts on a siren or whistle or, if given by bells, a constant ringing of those bells.

ALL CLEAR—The "All Clear" signal will consist of a long, continuous blast, or, if given by bells, a slow tolling of the bells.

Major Factors In Plant Protection

Employee Identification
Guard System
Fencing of Property
Air Raid Precautions
Blackout
Air Raid Wardens
Plant Protection Organization (a coordinator or superintendent, trained fire, rescue, first aid, and repair squads, etc.)
Prevention of Sabotage
Fire Equipment and Elimination of Fire Hazards
Fire and Blackout Drills
Inspection for Overloaded Systems
Accident Prevention
First Aid and Other Medical Facilities
Contacts with Local Plant Protection Committees, Fire and Police Departments and Public Utilities

Again, the State Defense Council, in effect a branch of the OCD, has prepared a blackout code which it "recommends" be followed by factories, institutions, assembly places, theatres, and the general public.

Blackout

Under this code factories, when the air raid alarm sounds, must:

1) Extinguish all signs and interior lights in sections where windows and doors have not been blacked out.

2) Equip time-clock controls on exterior lights so that they can be shut off by a person in authority.

3) Examine their premises with the aid of the warden to see that all openings are properly blacked out so that some lights can be maintained.

4) Maintain exit, stair, corridor, and emergency lights within the parts of the building open to employees, and see that they conform to blackout provisions.

5) Shield exterior exit lights so that no rays shine above the horizontal. Reduce the illumination by using standard blackout lamps or install a 10-watt inside frosted lamp shielded so that light is emitted downward and away from the door or wall through a ½ inch diameter hole or a ⅛ x 2 inch horizintal slot touching the bottom of the lamp. This is correct for a mounting height of 9 feet. Opaque any enclosing globe that shows brightness above the horizontal.

6) Where fire escapes and exits lead to alley-ways, paint a strip of white or luminous paint on adjoining walls or pavement and steps in such a manner as to show the way to the street.

7) Provide light locks at entrances most likely to be used.

8) Where possible, make arrangements for masking out any jets of high pressure steam or chimney glow so that it cannot be seen from above.

9) Provide auxiliary lighting means, such as flashlights, lanterns or candles, in the shelter area in case the electric service is disrupted.

10) Night lights may be maintained providing they are reduced in intensity and project no rays above the horizontal.

Of course, before the above can be done, plants must appoint ARP wardens, install blackout equipment and rehearse all steps involved so that a complete blackout can be achieved in five minutes. After its experience with a practice blackout one Massachusetts company prepared the following drill procedure:

(Continued on page 27)

ESSENTIAL to the efficient functioning of a plant protection system is the need for having all employees properly identified with badges. (This photograph, and the one on page 4, reproduced by permission of "Mill & Factory".)

THE HEALTH SIDE OF DEFENSE

V Organic Solvents

THERE are many volatile organic substances used as solvents in various industrial processes, and their number and the uses to which they are being put are increasing. These materials comprise a large number of organic compounds used as non-reacting solvents which, depending upon their vapor pressures, vaporize more or less rapidly at room temperature. The extent of the health hazard which may be associated with the use of an organic solvent depends upon the toxicity of the solvent and the concentration of its vapor in the atmosphere. All the volatile organic solvents are toxic but if the concentration of the vapor in the atmosphere to which the worker is exposed is kept below a certain limit, specific for each solvent, then it may be considered that the condition is non-injurious. The major health hazards usually are incurred in such operations as impregnating, coating, cementing and other various drying operations where the solvent is evaporated as a part of the process. However, poisoning may also occur in industries where the volatile solvents are produced, where they are used as one of the constituents of the final product or in some other manner than as a solvent where excessive quantities of the vapors may be present in the air breathed by workers.

Groups of Solvents

The solvents most widely used in industry may be divided into a small number of groups. Though hundreds of solvents are used today, it is necessary to be familiar with only these groups and certain of their members in order to have an intelligent appreciation of their health hazards and the method for control of these hazards. These groups, into which the solvents have been divided in accordance with their chemical and toxicological properties together with representative members, follow.

Petroleum distillates (aliphatic hydrocarbons)

Examples: Gasoline, benzine, Stoddard's specification solvents

Alcohols, esters, ketones, ether and ether alcohols

Examples: Denatured alcohol (ethyl alcohol to which various denaturants may be added) Methanol (methyl alcohol), ethyl acetate; amyl acetate (banana oil), acetone

Halogenated hydrocarbons:

Examples: Carbon tetrachloride, trichlorethylene, ethelyne dichloride, tetrachlorethane (acetylene tetrachloride)

Aromatic Hydrocarbons:

Examples: Benzene (benzol), toluene (toluol), xylene (xylol)

Carbon disulphide.

This article, the fifth in a series by Allan L. Coleman, Chief Industrial Hygienist, Bureau of Industrial Hygiene, Connecticut Department of Health, discusses the health hazards of a broad group of organic chemicals, classified as "volatile organic solvents", and indicates ways in which their toxic effects can best be minimized.

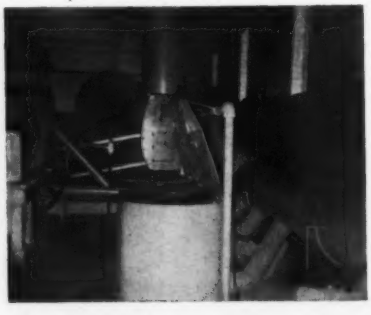
Petroleum Distillates

This group of solvents is relatively safe as far as the health hazard is concerned. However, evidence is increasing to the effect that prolonged exposure to excessive concentrations even of these comparatively innocuous solvents will cause definite injury to health. These compounds are inflammable, most of them having flash points below room temperatures. Benzine, spelled with a final "ine", is not to be confused with benzene, spelled with a final "ene". Benzine is comparable to gasoline whereas benzene (benzol) is one of the more poisonous solvents. The Stoddard specification solvents are comparable to gasoline in toxicity, but have the advantage of a high flash point. They are less volatile, a property which limits their use for certain applications. These solvents are widely used in the dry cleaning industry.

While it is true that the materials of this class are considered to be the lesser toxic of the solvents, recent investigation has shown that so-called "mineral spirits", "gasoline", "naphtha", etc. may contain appreciable quantities of certain aromatic compounds. Products bearing trade-names which would indicate the sole or principal constituents of the solvent to be aliphatic compounds of the type ordinarily found in petroleum distillates, have been found to contain as much as 50 percent, or more, toluol. Xylene, trimethyl benzene and higher benzene homologues also have been found in substantial quantities in these materials. In view of the higher toxicity of these aromatic compounds, every effort should be made to determine whether they are present in the so-called "naphthas" and "mineral spirits" heretofore assumed to be relatively non-toxic. In cases where these more toxic materials are found, more effective control measures may be necessary to reduce vapor concentrations to safe limits.

Alcohols, Esters, Ketones, Ethers and Ether Alcohols

There are many solvents in this group that have a great variety of industrial applications, such as the pro-



THIS highly efficient installation shows hand-dip tanks ventilated through outer shell about tanks.

duction of lacquers, rayon, artificial leather and dyes. Most of the members of the group are only moderately injurious and should be given special attention. Methanol is available in large quantities and is sometimes substituted for denatured alcohol. Such a substitution involves an increase in the health hazard, and more stringent control measures may be required. It is well to determine just which of the solvents in this group are being used and then to obtain specific information as to the injurious properties of these materials. Such data may be obtained in detail in the references listed below.

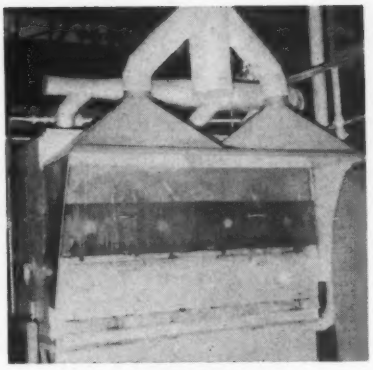
Halogenated Hydrocarbons

These materials are classed with the more toxic solvents. Research work by Smyth has shown that workers may be exposed to an average of as much as 100 parts of carbon tetrachloride per million parts of air, by volume, repeatedly, for eight hours each day, without adverse affects on health. Trichlorethylene and tetrachlorethylene, solvents commonly used for degreasing purposes, are somewhat less toxic than carbon tetrachloride. By far the most toxic member of this group is tetrachlorethane. This material is a solvent for cellulose acetate and nitrate, bitumen, waxes, resins, pitch, tar, sulphur, rubber and oils. The toxic effects resulting from the use of the tetrachlorethane in "dope", in the aircraft industry, during World War I, have very much restricted its use for this purpose. Because of its excellent solvent properties, this material still has a wide field of application.

Where halogenated hydrocarbon vapors may come in contact with open flames or incandescent material, phosgene may be produced. This gas is extremely poisonous and any possibility of its formation should be avoided.

Aromatic Hydrocarbons

Benzene, which is more commonly known by its commercial name "benzol", is one of the more toxic solvents used in industry. It is an excellent solvent and can be used without injury to health if adequate precautionary measures are observed to keep vapor concentrations, to which workers are exposed, below the maximum safe concentration of 100 parts of benzene per million parts of air, or .01 percent, by volume. Where it is difficult to provide ventilation facilities, or otherwise protect the worker from the vapor, it may be more practical to substitute some less toxic material. Such a substitution has been satisfactorily made in artificial leather and lacquer industries, where it was used as a diluent.



FOR removal of toxic solvents formed in a lacquer drying oven, this type of ventilation, with hoods in front of the oven, is recommended.

Due to the fact that toluene and xylene have been suggested as substitutes for benzene, there has been a general impression that these materials are non-injurious to health. The facts are that both these materials will cause poisoning but that higher concentrations are required to cause injury than is the case with benzene.

Carbon Disulphide

Carbon disulphide is one of the most toxic of the solvents. This solvent has a particularly obnoxious odor but this is of little or no assistance in preventing exposure to injurious concentrations.

Toxicity of Solvent Vapors

In considering the toxicity of volatile solvents one should distinguish between exposures that may cause acute poisoning and those that may cause chronic poisoning. Brief exposure to high concentrations of the volatile solvents may produce intoxication and, if sufficiently severe, loss of consciousness and even death.

While it is true that there is usually complete recovery from short exposure to high concentrations if not too severe, it is not to be inferred that prolonged exposure to only moderately excessive amounts of solvent vapors will cause no injury to health. In fact such exposures which may cause chronic poisoning constitute the more important problem.

The fact that a solvent may be used in a number of plants without causing injury to health does not necessarily mean that it is innocuous. For example, tetrachlorethane was being utilized at more than 20 plants as a solvent for an adhesive without apparent injury to health; but in another plant where this solvent was introduced a group of seven cases of poisoning with three fatalities resulted.

Many factors must be considered in evaluating the health hazard which may be associated with the use of solvents. Among these are the method and purpose for which the material is used as well as the physiological properties of the solvent, its absorption, distribution of the vapors in the tissues, elimination, etc. For example, ethyl alcohol is inherently more toxic than an equal amount of methyl alcohol, but the difference in the rate at which the concentration in the blood decreases renders methyl, or wood alcohol a much more dangerous poison than ethyl alcohol.

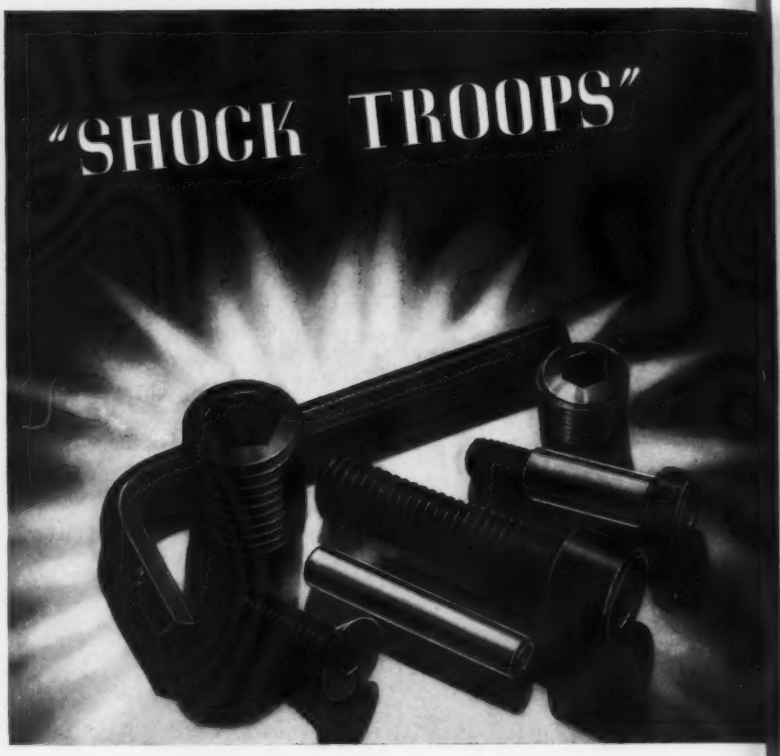
Changes in operating procedure or technic may result in exposure to injurious solvent vapor concentrations. In one instance, a group of eighty men were employed in a department store where two machines were being operated which involved the use of one of the newer organic solvents that had been shown to be only moderately toxic. Eleven of the men were directly engaged in the operation of these machines. The process had been in use for a considerable time when an alteration was made which increased the concentration of vapor and the duration of exposure of the workers. Even with the increased concentration of the vapor, its odor was not unpleasant nor, as far as we know, did it cause the workers to complain. Within a fortnight, one of the eleven workers went home after the extra long Sunday shift of 12 hours feeling ill. He died six days later, and within fourteen days a total of five workers had succumbed to fatal poisoning. There is no question but what this process, using the same solvent, could have been conducted safely, had the hazard resulting from the changes in operation been recognized and necessary measures taken to reduce the vapor concentrations to safe limits.

Control of Health Hazards

The prevention of poisoning from solvent vapors depends upon reducing

(Continued on page 33)

INDUSTRY'S "SHOCK TROOPS"



THE LAST three decades have seen the rise of hollow screws to key positions in the national industrial machine. Around their superior holding-power a new solidarity has been built into assemblies, strengthening mechanical set-ups to resist ever-increasing stresses. As a result, hollow screws rank well up front on the government list of critical products. This article presents some highlights on the history and utility of "ALLENS", which, since the original Allen patent in 1910, have paced each advance in the design and processing of hollow screws.

EVERY year prior to 1910, an average of 1500 factory workers were either killed or maimed by accidentally getting their clothing caught in projecting head screws set in revolving mechanical parts such as shafts and pulleys. These mishaps led to costly and constant litigation between employer and employee. Thousands of valuable man hours were needlessly lost and, so serious did the situation become, that several state legislatures passed laws forbidding the use of this type of screw on rotating machine parts.

The stage was set for a Yankee inventor and it was not long before one appeared, in the person of W. G. Allen of Hartford. Mr. Allen had worked out a new way of making safety hollow set screws; in fact he envisioned a new-principle screw that was not only safe, but strong enough to replace the hazardous square-head type then prevalent. It should be here noted that the hollow screw differs from external and slotted head types in that a hexagonal socket is formed within the screw itself, extending from the top directly into the metal. Into this socket fits a solid six-sided key or wrench, permitting powerfully firm set-ups without wrench slippage. When properly seated the tops of hollow screws are flush with or countersunk below surrounding surfaces, leaving no troublesome or dangerous protruding heads.

Allen's new process featured the cold-drawing of screw sockets, a method which produced a fastening with strength more than 30% in excess of the broached-socket screws then beginning to be used for safety's sake, despite inherent weakness. Allen's cold-drawing promised to make the use of hollow screws practical both from the standpoint of safety and holding power.

Mr. Allen made a fortunate choice in bringing his invention and manufacturing proposition to Mr. Ira Dimock, founder of the Nonotuck (Corticelli) Silk Mills and who, when he died, was the oldest silk manufacturer in the United States in point of years in business. Mr. Dimock had solidly established the silk industry in New England and had built up an enterprise that most men would have been glad to call a life's work and be done with, when approached by Allen. But Mr. Dimock was a mechanic of insight and ingenuity as well as an entrepreneur; he saw in the Allen product a hollow screw that combined safety with dependability, in a measure practical from the user's standpoint of cost.

The market for safety set screws had been held back by the limitations of the screws themselves, especially the weaknesses of the smaller sizes. By the broaching process universally employed, a hollow punch stamped out the socket holes, leaving the socket walls only as strong as the natural properties of the metal afforded. Screws made by broaching would split, ream or mushroom in the hole; and then added to the cost of the screws was the labor-cost of drilling or chipping out the broken parts, an operation so expensive as generally to outweigh the consideration of employee-safety.

But Allen's process changed all this. Instead of broaching with a hollow punch, the sockets were formed by cold-drawing around a solid hexagon punch, thereby increasing the density of the steel around the socket hole. The tremendous compression of the metal in cold-drawing produced not

only a perfect, clean-bottomed hexagon hole but a 30% increase in the strength of the screw. As one of Allen's early advertisements bluntly stated, "The Allen screw made by the patented cold-drawing process was as different from other hollow screws as a marble statue is from one made of plaster-of-paris." The extra strength-margin imparted by cold-drawing made the hollow screw eminently practical and unbreakable in actual shop use, even in the smaller sizes.

Manufacturing was commenced in June, 1910, in a tiny 22′ x 26′ brick shop on the same location as the present Allen factory, 133 Sheldon Street, Hartford. While initial progress was slow, it was nevertheless positive as results soon proved. One handicap was the necessity of devising entirely new machinery. When more than 80 years old, Mr. Dimock applied his own energy to the development and perfecting of screw machines which to this day have not been improved upon in principle.

Another stumbling block was sales resistance. Industrialists were wary of hollow screws because of the mechanical defects and deficiencies of early types. But indefatigable test-demonstrations by Allen sales representatives, plus steady advertising in the trade journals, eventually convinced the engineering world that the Allen screw was definitely a step-ahead. To drive their points home, the story is told of how Allen salesmen would occasionally resort to the persuasive power of five dollar bills. A favorite "stunt" was to seek out a foreman and ask for the huskiest individual in his charge. The big fellow would then be offered a "fiver" if he could, by manual force applied to the hex wrench, break an Allen screw set in a block of steel clamped in a vise. Company history does not once record the necessity for making payment.

It was not long before the original advantage, i. e. the safety feature, was eclipsed by the more widely urgent advantage of superior strength which ultimately was to revolutionize the assembly of machinery, dies, jigs, fixtures and even consumer goods. The importance of hollow screw production today is indicated by the fact that Allen, but one of several sizeable companies in its field, is working 24 hours a day 7 days a week turning out mounting millions of hollow screws and related items per week. In 1910 the Company offered a dozen sizes of

(Top) From these rods of special analysis alloy steel will eventually come precision hollow screws to hold together instruments of war and the machines that make them.

(Circle) Every individual Allen product undergoes inspection at the hands of keen-eyed examiners who make sure that only perfect screws reach the shipping department.

(Right, above) Hydraulic lead screw threading machines produce sharp, clean-cut threads with undeviating accuracy.

(Right, below) Samples from every batch of "Allens" are submitted to the laboratory for exhaustive tests. Here metal hardness is being checked.

set screws; today it lists approximately 5,000 stock sizes and in addition, makes to order thousands of special socket screws, the variety of which is limited only by the imagination of the machinery builder or engineer.

Growth of the Allen Company and expansion of its line are closely co-related. Due to the precision methods employed in the production of set screws and the extra strength which the cold-drawing process imparted to the metal, it was but natural that a demand should arise for the same qualities in socketed Cap Screws, a type which Allen first marketed in 1915. Tap Extensions and Pipe Plugs followed the manufacture of Cap Screws and, in 1929, Shoulder Screws or Stripper Bolts were added. To round out the line, Square Head Set Screws and Flat Head Cap Screws have lately been made standard items.

Another recent addition to Allen's line of diemakers' supplies is the "Tru-Ground" Dowel Pin. These accurately-formed shafts of special alloy steel, ground to exceedingly close tolerances, filled a long-existing need for a standard line of Dowels, widely used in punch and die work and now serving many newly recognized purposes of convenience in machine assembly. Other developments, particularly with reference to the aircraft industry are "on the fire" and Allen plans to fill new needs of modern industry as fast as definitely foreseen.

Each and every Allen screw represents an individual manufacturing achievement in precision and uniformity. Each step in the manufacturing process, from blanking the screw forms from steel to heat-treatment and final inspection, is carried out in the Allen plant. In this way absolute control over materials and methods is assured. Unrelaxing vigilance through all stages of production ensures that every "Allen" sent on its way to industry's production lines is as near perfect as metallurgical science and technical engineering skill can make it.

Allen maintains a modern laboratory equipped with the most up-to-date testing equipment to guarantee uniformity of both raw material and finished product. Samples of each batch of screws must have the laboratory's O. K. before being sent to market. No screws are more thoroughly tested, for tensile strength, yield point, elongation, reduction of area, Izod impact, Rockwell hardness—plus gauge and visual check-ups.

The original Allen method of cold-drawing, refined and perfected through the years, is still the basis of manufacturing procedure. Lately this process has been supplemented by cold-extrusion or "pressur-forming", a technique which imparts added strength to the metal by preserving continuous, uncut steel fibres from end to end of the screw. On the production side, "pressur-forming" steps up speed by as much as 100% and cuts in half the amount of raw material needed. From coils of steel wire stock, the Allen-developed machines consistently produce screws at the average rate of one per second.

Allen engineers place more than common emphasis on thread accuracy, as they realize there is no substitute for precision threading when it comes to holding-power and resistance to "unwinding" under vibration. Specially-developed hydraulic threading machines produce sharp, clean-cut threads to a high Class III fit, an engineering term applied to the higher grade of threaded parts which are to assemble nearly, or entirely, with the fingers and exhibit a minimum amount of shake or play between the threaded members.

All Allen products are made from special-analysis alloy steels; metals which, after exhaustive tests, have proved best suited to the manufacturing process and which provide exactly the right combination of hardness and toughness. Once made, all screws undergo heat-treatment to condition the metal. Heat-treatment includes a combination of heating and cooling operations—annealing, normalizing, hardening and tempering. Controlled-atmosphere furnaces which move screws through heated, enclosed muffles to an oil quench are scientifically set to provide the exact treatment required for the particular alloy steel being prepared. All heat-treating equipment is under automatic instrument control.

Finally every screw is individually hand-inspected by keen-eyed specialists who are quick to reject any specimen that may be even slightly sub-standard.

The importance of hollow screws in today's industrial world stands out in the multiplicity and diversity of their uses. For example, practically all the major metal working machines incorporate socketed screws both in stationary and moving parts. When industry turned to high-speed mass production which required non-stop operation of machinery, dependable holding power became a vital need. Only hollow screws had the holding power because of tremendous strength relative to their size and because the internally operated hex keys permit weld-like set-ups that defy the wracking strains of sustained operation. The current emphasis in machine manufacture on appearance, as an evolution from

(Continued on page 31)

FROM coils of alloy steel wire these high-speed "pressur-forming" machines cold extrude cap and set screws producing no scrap in the process.

SALVAGE FOR VICTORY

As stated in this month's Editorial, the victor in World War II will be the conserver. Not even the United States, rich country that it is, has wealth enough to waste and splurge unnecessarily. It is industry's job now to save—to put every bit of material, equipment or machinery to use.

THE Industrial Salvage Section of the Bureau of Industrial Conservation of the WPB is conducting an intensive campaign for the purpose of salvaging the maximum of iron and steel scrap; non-ferrous metals such as copper, aluminum, brass, zinc; waste paper, rubber, burlap bags, and cotton and woolen rags. These materials are critically needed for National Defense purposes. Right now and for the next two or three months the country is faced with a most serious need for raw materials.

For the manufacture of planes, guns, tanks and ships, an enormous amount of metal is required. The program laid out by the War Production Board means a continuing drain on our raw materials, which must be supplemented in every way possible.

Last year the nation produced about 80,000,000 tons of steel, of which 70% or 57,000,000 tons was finished steel production; 65% of this went into War production as of December—or 35,000,000 tons, leaving 22,000,000 tons for civilian use, which is one-half the total consumption of 1938. This year the need is for more than 90,000,000 tons. War needs for copper between now and the end of 1943 are estimated at 5,000,000 tons. Regular normal sources of supply will provide only 3,000,000 tons.

Floyd Odlum, former head of the Contract Awards Division, is the authority for the statement that our failure to increase the supply of critical raw materials even less than one percent may result in forcing around 10,000 small businesses to close their doors within the next six months. If they can be aided now, they can continue in business, and within the six month period be absorbed into war production units.

In many industrial centers across the country open-hearth furnaces have been compelled to shut down for the want of scrap. This has forced the idleness of many needed war workers and slowed up the production of war products.

The only way to solve this whole production is to get in the scrap out of which raw materials can be produced. In normal times, iron and steel scrap supplies one-half of the steel produced. Iron and steel scrap is to steel what yeast is to bread. To produce 90,000,000 tons of steel, 32 million tons of iron and steel scrap is required. In normal times, scrap supplies one-third of our copper; one-fifth of the rubber, etc.

The salvaging and collection of scrap is a normal procedure in business and industry. However, the normal sources of scrap cannot deliver into the stream the quantities needed to fulfill the demands of the war program. Several industries such as automotive that have supplied scrap in large quantities in the past cannot continue to do so, as they are now engaged in 100% war production of planes, motors, tanks, guns, etc.

Recognizing the vital necessity of "getting in the scrap", as quickly and efficiently as possible, and with the full knowledge that no matter how much scrap gets back into war pro-

PLAINLY marked receptacles for the collection of scrap are essential to the efficient carrying out of a salvage program.

duction, it will not be enough, the Bureau of Industrial Conservation of the WPB set into motion a salvage campaign that will send every ounce of scrap materials through regularly established channels of waste collection, assuring its return for war uses.

Surveys made so far indicate there is an average of 500 pounds of scrap per farm throughout the country. Accurate figures are not yet available, but recognized authorities estimate there are three to four million tons of scrap in automobile graveyards. Additional tonnage can be added in buried rails, abandoned buildings, bridges, oil wells, mines—but it is from industrial sources that the Bureau expects to secure its greatest tonnage, available in "dormant scrap" and obsolete machinery that can be salvaged or scrapped.

The job of "getting in the scrap" is divided into two sections, one called the "General Salvage Section", and the other called the "Industrial Salvage Section." The latter is concerned with all the industrial phases of the operation. The General Salvage Section is set up to stimulate scrap collection from homes, small farms, retail and department stores, garages, etc. This work is handled by state-wide organizations with secretaries from the General Salvage Section working with the Office of Civilian Defense and state governments. Eighteen states and New York City already have resident secretaries on the job. About 30 states in all have been penetrated by General Salvage work.

The Industrial Salvage Section is concerned with promoting the flow of scrap from all kinds and types of manufacturing establishments, mines, mills and public utilities. This applies to scrap generated in the process of manufacturing, and also scrap which can be realized from the wrecking of obsolete and abandoned machinery, buildings, oil wells, etc.

Accordingly, George T. Weymouth, chief of the Industrial Salvage Section, set up an organization staffed with specialists thoroughly experienced in salvage operations of all phases and for the most part loaned to the government.

The objective of the Section is:

1. to educate industry to salvage all critical waste materials
2. to speed up the return of these materials into the bloodstream of National Defense
3. to advise industry to use established channels in disposing of these waste materials.

An all-out campaign, whereby every industrial organization will be reached, has been placed into operation. The Bureau is functioning through three channels.

One channel is the organization of salvage efforts in industrial communities on a horizontal basis. The first industrial center so organized was Erie, Pennsylvania, and as a result, the program of organization and operation now functioning most successfully in that city has been called the "Erie Plan." This plan is now being adapted in Pittsburgh, Birmingham, Houston, Bridgeport, New Haven and Akron. The state of Massachusetts, under the direction of the Associated Industries of Massachusetts, has set up a plan after the pattern established at Erie.

Another channel of contact and activity is through the trade associations throughout the country. Some 175 associations have been contacted by mail or personally at special meetings. These associations have memberships running from 15 to 7000 members each, and have been urged by the executives to cooperate fully with the Industrial Salvage Section. In the short time elapsed since this effort started, the results are most gratifying. The secretaries have taken hold of the salvage program and have made it a continuous part of their administrative

(Continued on page 31)

THIS IS A WAR OF MATERIALS

Here are some ways every business, small and large, can help save or collect the many kinds of materials essential to war production:

Appoint a Director of Conservation, or give the job to the purchasing agent, but in any case put the responsibilities on one man's shoulders.

Decide whether material shall be reclaimed or scrapped. Arrange for quick disposal.

Prevent waste by better purchasing, better engineering, better production, and better packing and shipping.

Search the plant for idle scrap, abandoned equipment, obsolete parts and dies, materials now being destroyed but with salvage value.

Find markets for equipment and surplus stocks which some other plant can use.

Keep a list of scrap dealers and yards through which various types of waste can be speedily turned back into production.

Enlist the interest and cooperation of employees by an educational campaign and by devising incentives and awards for effective conservation work.

Establish contacts with the Bureau of Industrial Conservation, WPB, local manufacturers' associations and other trade associations.

Simplify lines and use standard materials.

Find out how by-products can be used.

Save scarce materials by using less critical substitutes.

Train workers in salvaging scrap, and provide clearly-marked containers for each kind of scrap material.

NEWS FORUM

Calendar

WITH AN ATTENDANCE of 70, the Manufacturers Association of Meriden held a luncheon meeting at the Three Cups Inn in Meriden a few weeks ago. The assembly was addressed by Philip Hewes of Hartford, deputy administrator for the sale of defense bonds and stamps in Connecticut; A. E. Whitehill, assistant representative in New Haven for Training Within Industry, Labor Division, WPB; Arthur Dubois, director of training at Scovill plant in Waterbury; and Postmasters John J. Scanlon of Meriden and John Bridgett of Wallingford, who are in charge of the sale of defense bonds and stamps in their respective communities.

★ ★ ★

NEW BRITAIN'S city-wide foremen's night last month had as one of its speakers Joseph E. Moody, plant manager of Hodshon-Berg division, American Hat Corporation and former secretary of Hartford County Manufacturers Association. His subject was "Ways of Handling Grievances".

★ ★ ★

FRED R. FAIRCHILD, professor of Economy at Yale University, discussed "War Taxes" in the second of a series of public conferences sponsored by the Connecticut Economic Council which started last month. Professor Fairchild suggested either a sales tax or withholding tax on gross incomes at their source as future possibilities in meeting war costs.

Walter Gordon Merritt, New York labor law specialist, opened the Council's 1942 lectures with a denunciation of the "unprecedented power and privilege" of labor groups. Mr. Merritt recommended the adoption of a "code" for unions whose violators would be deprived temporarily of many of the rights which they have gained through legislation.

★ ★ ★

ALFRED C. FULLER, president of Connecticut Manufacturers Association, addressed members of Middlesex County Manufacturers Association at their mid-winter meeting held at Higgins Inn, Middletown. Mr. Fuller pledged the aid of himself and the association's staff in specific problems connected with material scarcity and priorities. He said he would promote organized planning that will aid in the solution of after-the-war problems. Mr. Fuller also asserted that through establishment of trust funds and adequate reserves industry would be able to maintain wage and employment levels after the war and thereby avoid a serious depression.

★ ★ ★

AT A "CRACKER-BARREL" conference arranged by Danbury Chamber of Commerce, manufacturers of that area seeking to prevent a dislocation of industrial life by keeping Danbury people at work in Danbury factories, presented their problems to WPB officials. E. L. Milliken, state director of the DCD, discussed the purpose of his division and said his office would attempt to get the various manufacturers in contact with prime contractors to either make parts or do some of the processes of the finished product. Pooling of various resources, such as maintenance shop machinery, was suggested.

★ ★ ★

AMERICAN THREAD, in the interests of defense bonds and the war relief campaign of the Red Cross, sponsored a rally in front of the No. 2 Mill of the Willimantic plant. The exercises, high-lighted by an address by Mayor Hinman, also included tableaux and the singing of patriotic songs.

★ ★ ★

INDUSTRIAL METHODS SOCIETY of Hartford held an open meeting on motion and time study at the Gas Company auditorium last month. The speaker was A. B. Segur, head of the Chicago industrial engineering firm of A. B. Segur; his topic, "The Anti-Stop Watch Law". Chairman of the meeting was Joseph Motycka, labor standards chief of the Pratt & Whitney Division of United Aircraft.

War Work . . .

The Purolator box illustrated contains elements for use in military equipment.

Our box factory and adjoining paper board mill are well prepared to produce packaging important to many war needs.

Consult us. Our representative will gladly call on you.

ROBERTSON PAPER BOX COMPANY
MONTVILLE, CONN.
NEW YORK OFFICE
420 LEXINGTON AVENUE

ALLEN HOLLOW SCREWS

The hand that grips these hollow screws holds the biggest handful of *gripping-power* so far available to engineers. This HOLD-ability of ALLEN Screws increases with Allen advances in two directions:—

(1) Through improved methods of *cold-drawing and "pressur-forming"*, the screws are given more and more strength for tremendously tight set-ups.

(2) Through the development of precision threading processes (lead screw threading of set screws and *"duo-process"* threading of cap screws) *all* of the thread-surfaces engage in the tapped hole, with evenly distributed friction-pressure over the entire length of thread.

So, "Allens" *keep their HOLD* on assembled parts—as also on the friendly allegiance of design and maintenance engineers.

Your local Allen Distributor will accommodate you to the limit of his capacity and available supplies.

THE ALLEN MFG. COMPANY
HARTFORD, CONNECTICUT, U.S.A.

MORE THAN 90 businessmen, farm leaders, farm educators, and state agricultural officials attended the Southern New England Farm-Industry Conference at Storrs in late January. Sponsored by the NAM Committee on Agricultural Cooperation and the University of Connecticut, the meeting strongly agreed on two points: (a) the importance of cooperation in every way possible to increase production of materials and products vital to winning the war; (b) the necessity for every citizen to assume his share of the responsibility to assist this nation in escaping the dangers of inflation.

These were emphasized in a dinner speech by Frazar B. Wilde, president of Connecticut General Life Insurance Company, Hartford. According to David Clarke, secretary of the State Farm Bureau Federation, the most serious problems facing southern New England farmers are the farm labor shortage, the increased need for farm machinery, the shortage of some of the chief fertilizers, transportation, rubber, packaging, price parity, and possible inflation. President Alfred C. Fuller and W. A. Johnson of the Association's staff attended the first day's sessions.

Comment

SPEAKING BEFORE 250 leading businessmen in New York, War Production Chief Donald M. Nelson pointed out that the need for war materials was now. "If any of you men have war contracts pending which are being held up while you negotiate on terms or while your lawyers are arguing over items, get into production now and settle the details later," Nelson told the meeting, which was arranged by the NAM. "To hell with stopping to count the cost. Start turning out the stuff and we can argue the terms at our leisure. Turn it out by inefficient methods if necessary and figure out better ones as you go along —but get the stuff moving whatever happens." He reminded them that President Roosevelt has said this country had six, eight or ten expeditionary forces on world battlefronts and that American manufacturers had to deliver the goods.

Died

WILLIAM G. SHORTESS, 70, president of the Inland Paper Board Company of Versailles, Connecticut, died in the LeRoy Sanitarium in New York on February 5 after a brief illness. Mr. Shortess' plants were located in many eastern states.

★ ★ ★

CARL WOLF, president-treasurer of Wolf's New Process Abrasive Wheel, Inc. of Meriden: at the age of 47. He was born in Germany, coming to Meriden with his parents at the age of two years. The business which Mr. Wolf headed was established about 23 years ago and incorporated in 1919. Among several memberships, Mr. Wolf was a high ranking member of the Masonic fraternity, the Independent Order of Odd Fellows, the Meriden Chamber of Commerce and the Wallingford Country Club.

★ ★ ★

ISAAC D. RUSSELL, 75, treasurer of American Hardware of New Britain: at New Britain General Hospital. Mr. Russell had been treasurer of American Hardware since 1915, succeeding the late Charles E. Wetmore. He took an active part in the expansion of the firm's many manufacturing divisions.

Disaster

WORKERS IN the straw hat division of Hat Corp. of America went on a rush schedule to replace a stock of straw hats damaged when a sprinkler accident in one of the concern's warehouses soaked 2300 cases valued at nearly $250,000.

The hats were damaged when the sprinkler system in the four-story shed released a torrent of water without warning. These hats represented a large portion of the company's stock for next summer. Division foremen said they believed a large part of the straw could be salvaged.

★ ★ ★

EIGHT EMPLOYES of Pratt & Whitney Division of United Aircraft Corp. were injured in an explosion at the plant, and several died later. The explosion apparently occurred as welders were making installation of a dust collector system for a machine used to spray molten aluminum on engine cylinders. There was no evidence of sabotage.

ÆTNA LIFE AFFILIATED COMPANIES

MORGAN B. BRAINARD, *President*

Financial Condition as of December 31, 1941

ÆTNA LIFE INSURANCE COMPANY

NINETY-SECOND ANNUAL STATEMENT

Assets		$778,237,038.75
Liabilities		735,434,309.12
Capital	$15,000,000.00	
Surplus	27,802,729.63	
Surplus to policyholders		42,802,729.63

Securities carried at $13,541,264.91 in the above statement are deposited with public authorities as required by law.

THE ÆTNA CASUALTY AND SURETY COMPANY

THIRTY-FIFTH ANNUAL STATEMENT

Assets		$ 78,947,581.91
Liabilities		54,711,879.42
Capital	$ 3,000,000.00	
Surplus	21,235,702.49	
Surplus to policyholders		24,235,702.49

Securities carried at $1,104,072.45 in the above statement are deposited with public authorities as required by law.

THE AUTOMOBILE INSURANCE COMPANY

TWENTY-NINTH ANNUAL STATEMENT

Assets		$ 31,383,454.17
Liabilities		17,275,393.73
Capital	$ 5,000,000.00	
Surplus	9,108,060.44	
Surplus to policyholders		14,108,060.44

Securities carried at $592,762.76 in the above statement are deposited with public authorities as required by law.

THE STANDARD FIRE INSURANCE COMPANY

THIRTY-SECOND ANNUAL STATEMENT

Assets		$ 6,331,900.91
Liabilities		3,231,236.63
Capital	$ 1,000,000.00	
Surplus	2,100,664.28	
Surplus to policyholders		3,100,664.28

Securities carried at $244,891.69 in the above statement are deposited with public authorities as required by law.

Paid to or for Policyholders since organization $2,051,559,072.89 • **Life insurance in force $4,856,799,072.00**
Total premium income, all companies, 1941 . . $193,110,867.17 • **Increase in Life Insurance in force . . $509,140,566.00**

HOME OFFICE
HARTFORD, CONNECTICUT

OFFICES IN
ALL PRINCIPAL CITIES

THE ÆTNA LIFE AFFILIATED COMPANIES WRITE PRACTICALLY EVERY FORM of INSURANCE and BONDING PROTECTION

GOOD ADVERTISING STARTS WITH SALES PLANNING

Manternach, Inc. has had years of experience in gathering facts and data about products to determine their merchandising possibilities.

The purpose of this spade work is to lay the foundation for a sound, economical, merchandising plan before spending advertising money.

Manufacturers in Connecticut and Western Massachusetts find it an advantage to work with an advertising agency with such a wealth of experience as this agency has accumulated during the past twenty-five years.

Because of the compact territory we serve it is only a matter of a few minutes and a few miles from our office to yours.

Exhibition

TENTH ANNUAL EXHIBIT of the Design Department of Meriden State Trade School, held in cooperation with Meriden and Wallingford concerns, ran from January 24 to February 1. Work exhibited by manufacturers included silver, jewelry, glass, plastics, prints, boxes, bathroom accessories, electric lighting fixtures and appliances, vacuum jug sets, and gift wares. The following companies exhibited: International Silver, R. Wallace & Sons, General Electric, Miller, Shaw Paper Box, Napier, Charles Parker, Ellmore Silver, Judd, Walter Wilson Studio, Meriden Gravure, Manning-Bowman, and Niland Glass. The Silver Department of the Trade School also had an exhibit.

Expansion

NAUGATUCK AROMATICS has announced establishment of new quarters in New York City. Naugatuck aromatics are products of the Naugatuck Chemical Division, U. S. Rubber Company. The new facilities include sales headquarters for the aromatics division, storage warehouse, and laboratories for testing and for developing new odors and for covering or harmonizing characteristic odors of varied industrial products.

★ ★ ★

CONTRACT cost for tunnels, manholes and foundations to be built in connection with the 1942 expansion program of United Illuminating Co. will total about $400,000, it has been announced. Superstructure plans will be completed soon and work upon the additional buildings will follow completion of foundations.

★ ★ ★

CLAYTON R. BURT, president of Pratt & Whitney Division of Niles-Bement-Pond, told employees at an assembly that the company plans the immediate erection of "two large buildings" and that it hopes to accomplish the expansion program with the least dislocation of the shop. The additions will house expansions of the gage and machinery works, President Burt said, adding that plans and contracts were then being settled so that work may start shortly. "We'll have to play less and work harder," he told the workers. Warning against loss of time, he said, "We must back up our boys on the firing line."

★ ★ ★

WATERBURY CLOCK has announced plans for the construction of a $700,000 assembling plant, to be completed in June. Between 600 and 1,000 persons will be employed in the plant, which will have around 100,000 square feet of factory space.

Honored

WALTER B. WEISENBURGER, executive vice-president of the National Association of Manufacturers, was the recipient of the 1941 award of the National Association of Publicity Directors, Inc., for outstanding service in publicity and public relations. He received this award at the fifth annual award dinner of the Publicity Directors Association in the Sert Room of the Waldorf Astoria, Tuesday evening, February 17.

In conferring the honor, the board cited Mr. Weisenburger's success in promoting better understanding of industry by the public and a keener appreciation by industry of its public responsibilities. Previous recipients of the award were as follows: 1937, Charles Michelson, for his campaign for the National Democratic Committee; 1938, Wm. O. Douglas, for his work as chairman of the S. E. C. in opening operations of the country's security exchanges to public scrutiny through publicity; 1939, Governor Lloyd Stark, of Missouri, for his work as head of the Council of State Governments in the use of publicity in breaking down interstate trade barriers; 1940, William Allen White, of the Committee to Defend America by Aiding the Allies.

A former journalist and one-time managing editor of the Hannibal "Morning Journal", Hannibal, Missouri, Mr. Weisenburger left the newspaper field to become vice-president of the National Bank of Commerce in St. Louis in 1917. In 1928 he became president and chief executive of the St. Louis Chamber of Commerce where he remained until accepting his present responsibilities as executive vice-president of the National Association of Manufacturers.

Labor

MORGAN R. MOONEY, Secretary of the State Board of Mediation and Arbitration, declared that despite the turbulent national scene, labor relations in Connecticut during the past year were relatively stable and peaceful. In view of the large volume of contracts for war materials on the books of Connecticut employers, during the period December 1, 1940, to November 31, 1941, there were only some 15 strikes affecting the production of war material to any degree whatsoever. These involved about 12,500 employees. The longest stoppage was 28 days with the average time lost about five days. This record is one of outstanding credit to the employers and unions of this state, Mr. Mooney stated: "In large measure, it is attributable to the fact that they have made, with few exceptions, a realistic and serious attempt to adapt themselves to a changing and dynamic condition, and to reach an amicable understanding of each other's problems and necessities."

Personnel

HARRY J. BENZIE of Stratford has been appointed production manager of General Electric's Bridgeport plant. Mr. Benzie will have general supervision of production, receiving, material handling methods and also allocation and maintenance of all transportation equipment, in addition to his present responsibility for warehousing and transportation. He has been with the company since 1911.

★ ★ ★

FORMER GOVERNOR Raymond E. Baldwin was elected to the board of directors of the Russell Manufacturing Company in Middletown. Mr. Baldwin will fill the vacancy caused by the resignation of S. St. John Morgan of Boston. He is a member of the law firm of Pullman & Comley, Bridgeport, also honorary vice-president and director of the Connecticut Merit System Association, Inc., a director of Bridgeport Hospital, and a trustee of Wesleyan University.

★ ★ ★

AVARD E. FULLER, sales promotion manager of Fuller Brush, has been elected to the company's board of directors. He joined the company in 1937 and was appointed sales promotion manager in April, 1941. Mr. Fuller is a native of Hartford. Following his preparatory education at Kingswood and Westminster School in Simsbury, he attended the Manlius School, Manlius, N. Y., and later studied engineering at the Casey Jones School of Aeronautics, Newark, N. J.

★ ★ ★

FLETCHER H. MONTGOMERY, president of Hat Corporation of America, New York, has been appointed a member of the board of directors of the National Association of Manufacturers. The announcement was made by William P. Witherow, NAM president.

We specialize in . . .

GROUND THREADS

GROUND GEAR TEETH

GROUND SPLINES

GROUND CAMS

BROACHING

For full details write:

The Hartford Special Machinery Co.

Hartford, Conn.

W. ODEN HUGHART, secretary of Charles Parker, Meriden, has been reelected president of the Manufacturers Association of Meriden. William F. Minor, vice-president and general manager of the Miller Company, was renamed vice-president, and Frederick M. Stevens, general manager of Hollowware Division, International Silver, was elected treasurer to succeed Edward Tredennick, secretary and treasurer of E. Tredennick, Inc. William J. Wilcox was reelected secretary and George J. Sokel, president of Home National Bank, and George C. Devaul of International Silver were named auditors.

EXPERIENCED HELP The Worden Company is effectively organized to give New England firms real help. Our staff of over fifty trained analysts and engineers is ready to give you such particular assistance as you may require. These men know how to get things done. They have already solved at sometime or other almost every difficulty that management is faced with today. It is usually only a matter of recognizing the problem and deciding which of several proved solutions to apply for speediest and best results.

These men are available for a single project that may only involve a day's or a week's work, or for more complete and lengthy jobs. And they can be on your job quick. All you have to do is telephone our Boston headquarters.

You should write for our booklet "What We Do and How We Work"

The WORDEN COMPANY

MANAGEMENT ENGINEERS

STATLER BUILDING BOSTON, MASSACHUSETTS

"Our 10th year of leadership"

FULLERGRIPT BRUSHES *in the Industrial Field*

FULLERGRIPT BRUSHES are used with great success in widely diversified industries. In the food, textile, leather tanning, and other specialized fields, engineers and machine designers, as well as the users of the equipment, know from actual performance the advantages of Fullergript.

The cut above illustrates the continuous strip method of manufacture. The brush material is being wound closely on a permanent metal core that may be refilled with new brush materials as required. In Fullergript the brush materials—whether hair, bristle, or fiber—are gripped vise-like in a metal backing by automatic machinery, which reduces the possibility of shedding. The materials are compactly and evenly distributed in the backing, resulting in a vastly superior brushing action and longer production life. Write us for further information.

FULLERGRIPT BRUSHES

The **FULLER BRUSH** *Company*

INDUSTRIAL DIVISION - DEPT. 8c - HARTFORD, CONN.

GEORGE M. WILLIAMS, president of Russell Manufacturing, Middletown, has been granted an indefinite leave of absence by the directors in order that he might assist the defense production of Republic Steel in San Diego, California. He will be first assistant to Thomas M. Girdler, who recently became chairman of Vultee-Consolidated Aircraft.

Until President Williams's return, his duties have been delegated to Carl J. Sherer, vice-president and treasurer; Amor P. Smith, vice-president and secretary; and to Thomas M. Russell, Jr., vice-president in charge of engineering.

★ ★ ★

W. N. GUTHRIE, a partner of Stevenson, Jordan and Harrison, Inc., industrial and management engineers of New York, has been appointed executive vice-president and general manager of Cuno Engineering, Meriden. Mr. Guthrie has been with Cuno Engineering for the past year on a part time basis in connection with work being done by the industrial engineering firm.

★ ★ ★

RICHARD F. BERRY, associate of the well known law firm of Day, Berry and Howard of Hartford, of which his father, Joseph F. Berry is a senior member, started his new duties as a member of the Association staff, Monday, February 2.

He is a graduate of Kingswood School, West Hartford, Williams College and Boston University and was admitted to practice before the Connecticut Bar in 1938 and before the United States District Court for the District of Connecticut in 1939. He has been affiliated with the law firm of Day, Berry and Howard since October, 1938 and was assistant prosecutor of West Hartford from 1939 through 1941.

He is a member of the Hartford, the State and the American Bar Associations. Until recently he was chairman of the Connecticut Membership Committee for the American Bar Association and also secretary of the Membership Committee of the Connecticut Bar Association. Mr. Berry is also a member of the Zeta Psi college fraternity, the University Club of Hartford and the Hartford Golf Club.

★ ★ ★

PAUL ADAMS, member of the Association staff for the past three years and Association Counsel for the past year, has just accepted a post as staff attorney for the Bureau of Ships, Departmental Contracts Branch of the U. S. Navy. He will be engaged in negotiating contracts for the Bureau. It is expected that he will shortly become a lieutenant, junior grade, in this division of the Navy.

Although regretting to leave his post at the Association, Mr. Adams felt that he could serve his country best in this critical hour by joining that branch of the armed forces which gave him an opportunity to use his legal talent to the best advantage.

Pulse

INCREASED REVENUES of Southern New England Telephone in 1941, resulting from continued abnormal telephone requirements due to the defense effort and the impact of war, were offset by mounting expenses so that net earnings for the year amounted to $3,147,709 or $7.87 per common share, compared with $8.10 in 1940, President Allerton F. Brooks reported at the annual stockholders' meeting.

With the declaration of war, Mr. Brooks pointed out, the vital role of the telephone in defense was intensified. The combined effects of special requirements for military and civil defense communications, together with the increasing scarcity of many essential materials, have presented new problems. However: "Telephone forces are keenly aware of their responsibility, and as each new phase of the war effort has brought new demands, our personnel has met the challenge not merely as a duty but as a patriotic privilege."

★ ★ ★

EMPLOYMENT in 82 plants in Hartford County went to another new high in January, showing gain of 4014 at 108,712, or up 3.8% for the month. Compared with a year ago the number on payrolls was an increase of 25,112 or 29.9%; and an increase of 56,468 or 103.5% over January, 1931. The monthly report of the Manufacturers Association of Hartford County shows the total of manhours in the 82 plants was up over January last year and compared with January, 1939, up 305%.

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● KODAK FILMS and PHOTO SUPPLIES
● MOVIE CAMERAS and PROJECTORS

ALL KINDS OF PHOTOGRAPHIC EQUIPMENT

SAFETY GLASSES
To Prescription

DEVELOPING
PRINTING
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ESTAB 1890
THE Harvey & Lewis CO.
GUILDCRAFT OPTICIANS
HARTFORD, CONN.
NEW HAVEN, CONN.
BRIDGEPORT, CONN.
NEW BRITAIN, CONN.

Stork

HARTFORD-EMPIRE stockholders at the annual meeting learned officially for the first time that the management has a new subsidiary, Plax Corporation, now operating in a separate plant in Hartford. Plax Corporation is engaged in the production of plastics and in research. The corporation is designing machinery for processing of plastics in commercial forms. Over the past five years it has developed machinery for producing plastic rods and sheets and also for blowing plastics.

INDUSTRIAL DOCTORS' EXCHANGE

This column, sponsored by the Association's Health and Safety Committee, seeks to promote an exchange of ideas between industrial doctors. This month a summary of medical and health topics discussed at the Fourth Annual Congress of Industrial Health, compiled by Dr. Clifford Kuh, Chairman, Committee on Industrial Health, State Medical Society, is presented.

REGISTERING a new high in attendance, the Fourth Annual Congress on Industrial Health, held in Chicago in January, was notable for upsetting time-worn concepts. Nearly 50 papers were presented, many on challenging topics, and two field trips provided.

First might be mentioned the widely publicized and not too accurately interpreted joint report of the Council on Foods and Nutrition and of the Council on Industrial Health concerning vitamin administration in industry. One newspaper headline claimed the representatives of the Council did virtually "scoff at vitamins as an aid in diet."

This is not true. The report did, however, decry the promiscuous distribution of vitamin pills as irrational and nutritionally unwise, but admitted, of course, that vitamins are valuable, particularly in specific and proved deficiency states. The worker, however, should get his vitamins from the grocer, not the pharmacist.

"The Council on Foods and Nutrition," the report stated, "has always had as one of its guiding principles, to be applied when passing on claims advanced for foods, that there be suitable scientific evidence in support of the claims made.

"Too often it turned out that such evidence is not at hand, but rather a body of the vague sort illustrated by the statement, 'We got good reports from doctors and others.' Essentially this same situation appears to prevail with respect to administration of vitamins to industrial workers by their employers.

"There is no body of scientific information at present upon which to base a recommendation. Industry would better spend the money on research than on vitamin pills."

The seven-day week came in for criticism in a paper on "The Physiology of Work" by Professor A. C. Ivy of Northwestern University School of Medicine, who emphasized the need for rest to prevent staleness. He referred to an experiment in which a squad of men was given the task of digging a large trench in competition with another squad, the former being allowed to work ad lib and the latter on a restricted schedule of alternate work and rest. The latter won.

Advocates of the seven-day week, he stated, claim that the average man does not work at the peak of his capacity. There is a margin of safety which is usually not exceeded, even when production-time is stepped up.

However, Dr. Ivy claimed that the facts do not bear this out. He referred to the well-known experience of Britain in the last war, when it was found that production declined on a 70 or 80 hour week. To achieve maximal production 48 hours for the woman worker and 54 to 60 hours for the man should not be exceeded.

Work is a complex phenomenon. Previous habits are a factor and at times output follows stereotyped patterns. It may be impossible to force an old crew to increase output no matter what devices are used, while a new crew, starting fresh under similar conditions of work, may double the output of the old.

The British found that extension of hours of work produced no proportional rise in production except for a short time, that output under strain was unsteady, and that absenteeism increased due to illness. It was the increased illness which started their critical evaluation of output in relation to overtime. There was twice as much illness among women on a 60-hour compared with a 44-hour week and the number of accidents trebled on a 12-hour against a 10-hour day. Men on longer hours consumed more alcohol.

There is no simple formula for work, but short vacations avert staleness. Just as rest and good food may cure illness, Dr. Ivy claimed, rest, good food and recreation may prevent it.

Many preconceived notions on factors in the working environment which might affect disease, as, for example, tuberculosis, were upset in a report read by Dr. Leroy U. Gardner of Saranac Lake, N. Y. In general, he stated, nothing in the physical environment affects tuberculosis except silica dust. Nutrition and socio-economic considerations are apparently the important factors.

To bear this out he referred to many studies, in almost all of which the findings confirmed his premise. Tuberculosis reinfection, he said, was the same in positive and negative tuberculin reactors. Although reinfection is possible in young and old and is more common under 30 years of age, repeated contact is necessary, usually more intimate than that found in industry.

Prompt treatment helps to cure all tuberculous individuals and in importance outweighs racial characteristics, type of employment, and body weight.

In the incidence of tuberculosis it been found that environment temperature, humidity, and air-conditioning are not factors. Nor, surprisingly, is fatigue a factor.

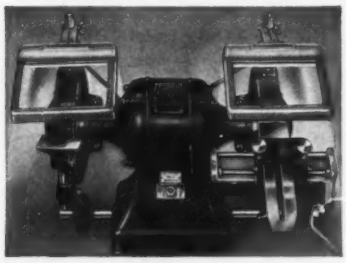
That health programs may produce more concrete results than commonly supposed, was brought out during a visit to the Hawthorne Works of the Western Electric Co., Chicago.

A study of the nearly 20,000 workers at this plant showed that more than half the time 13 per cent of workers received sickness benefits, which are paid for absences of a week or more. Among the remaining workers 44 per cent never received benefits, while the balance, 43 per cent, were on the rolls a modicum of the time.

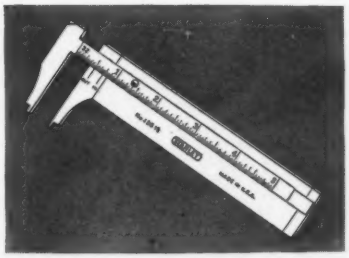
A number of the often-sick groups were selected for a concerted health promotional effort. These individuals were referred to outside doctors for treatment, who in turn referred them each to the plant medical department, where they were periodically interviewed. As a result their absenteeism rate showed a marked decline.

NEW PRODUCTS ON PARADE

RECENT STANLEY DEVELOPMENTS include (1) a ⅓ H.P. ball bearing equipped Edge Tool Grinder and (2) a handy pocket Caliper Rule. The tool grinder operates



at the correct speed so that edge tools may be properly sharpened without burning. 7″ x 1″ grinding wheels, of which two are furnished with each unit, are protected with guards and covers. A plane iron and chisel grinding attachment with micrometer screw adjustment is a standard accessory. Also available with the grinder are the new Stanley "Flud-lite" Safety Eye Shields for protecting operators' eyes and throwing light directly on wheel and work.



The Caliper Rule of boxwood with brass caliper slide is a useful tool for accurately measuring rods, tubing, squares, cable, rope, bolts, pipe, etc. Caliper capacity permits measuring hole diameters from 7/32″ to 5″, widths or lengths up to 5″ and diameters of rounds up to 3″.

★ ★ ★

THE SPEEDWAY, a light-weight, compact wire rope electric hoist is a new addition to the line of Wright Manufacturing Division of the American Chain & Cable, Bridgeport. The Speedway is obtainable in capacities

from 250 to 1,000 pounds. Portability, flexibility and accessibility are its outstanding features. Like an electrical accessory, it is ready to go to work anywhere: can be plugged in on lighting circuit, or used with conductor systems. Outstanding features of Speedway construction are: push button control; weather-proof, acid-proof, dust-proof, preformed hoisting cable on drum winding, eliminating slack chain fouling loads; safety limit switches; safety load blocks. Furnished for lug, hook or trolley suspension.

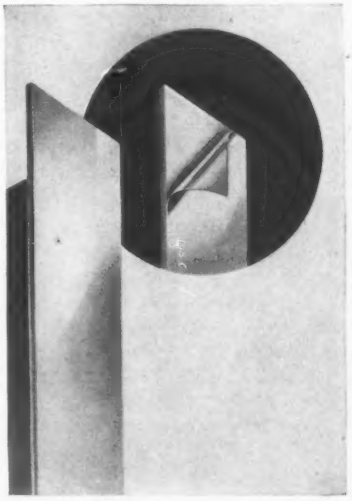
★ ★ ★

OPENING METALS DRUMS of chemicals, food, what-have-you, in the usual way with cold chisel and hammer is a slow, laborious job presenting constant danger of injury from either the tools themselves or the ragged edges of the opened drum. The new Westco Drum Opener changes all that. As built by Turner & Seymour Mfg. Co., Torrington, it cuts and folds back a smooth-edged opening in straight-

chime drums up to 35 in. in height. Raise the counter-balanced cutter head to the right height; clamp it on; turn the cutter's crank; that's all.

★ ★ ★

LARGER, ONE-PIECE SHIMS can now be cut from Laminum, a shim stock composed of brass laminations alternating with layers of metallic binder, manufactured by Laminated Shim Co., Glenbrook. Laminations of the stock, now furnished in 7″ x 36″ dimensions, are readily peeled off, one or more at a time to make the desired adjustment, leaving the exposed surface hard and smooth. The new sheets are available in overall thicknesses from .006 to .125 inch. All of these thicknesses may be obtained in all-laminated sheets with choice of .002 or .003 inch thick laminations or various thicknesses may be had partly laminated and partly solid.



★ ★ ★

A KNURLING AND MARKING machine, of the heavy duty, power operated type, for 75, 90 and 105 mm. shells is a new product of Noble & Westbrook, East Hartford. With a production rate of 10 to 15 shells per minute, the machine impresses a series of lines into the band seat and, in the same operation, marks the shell permanently with designation, lot number, date, etc.

CONNECTICUT AT WAR

WE CAN'T "BEAT THE PROMISE" WITHOUT MANPOWER*

Now that we are at war in deadly earnest, the RCA slogan "Beat the Promise" on delivery of arms and equipment should be the watchword in the hearts and moving the minds and hands of every manager, supervisor and foreman engaged in any phase of the "all-out" war effort.

That "must" objective can be attained only by adequately trained men and women manning equipment to the full—all serving in the spirit born of a conviction that Democracy's victory is *their* victory; its defeat their introduction to *slavery*.

Where can we find this essential manpower in the face of new demands being made upon Selective Service for millions more young men in the armed forces? That was the blunt question just discussed in a recent meeting of a few leading manufacturers with Colonel Averill, Major H. J. Schwabacher and Lieutenant William B. Pape of the Connecticut Selective Service. The situation is serious for every Connecticut company engaged either directly or indirectly with our "all-out" war production effort. The cold fact is that occupational deferments will be thrown "out the window" by the hundreds within the next 90 days, and by the thousands after that to meet the ever-increasing demand for men to man and maintain, in fighting trim, the guns, ships, planes and tanks we are producing.

Only the young and physically strong can use the weapons and only the mentally and manually trained can produce them fast enough. Industry, therefore, can only fulfill its promise to, and maintain its prestige with, the American people by checking now for its potential manpower losses and estimating its near future needs for replacement and expansion.

Once potential losses and estimated future requirements are ascertained, every company should move swiftly to secure the necessary trainees, and either provide training facilities itself or offer inducement to have them trained by federal, state and private agencies. A start today is none too soon, for the draft will begin to take a real toll of semi-skilled machine operators, inspectors, clerical help—in fact of all workers that can be replaced by trainees from "non-eligible fighters" shortly after April 1, when thousands of occupational deferments will be reviewed and no longer extended, except for cause.

In an earnest effort to avoid this serious threat to our excellent war production effort, we have just conferred with the heads of employment and training agencies. They have agreed to cooperate enthusiastically with our plan of helping you to continue to "beat your promise" on delivery of war goods, by giving prompt attention to your requirements for trainees and training.

We appealed to you in our General Bulletin No. 866 dated December 18, 1941 to enlist more women for training but the tangible results of that effort have been disappointing. Time is short. We beg of you to respond to this appeal for quick action by giving us promptly the facts concerning your present employment needs.

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* *This text of War Resources Bulletin mailed to Association members February 11, is considered so important that* CONNECTICUT INDUSTRY *reproduces it here for emphasis.*

SETH LOW PIERREPONT, state salvage chairman, declared that almost everything but cellophane, tin cans, tinfoil and old razor blades can be turned into vital defense materials and should be saved. Mr. Pierrepont emphasized the "great need" for saving all possible valuable material for reconversion. In addition to metals, he said items on the "save" list should include rubbers, rags and paper, discarded footwear, garden hose, rubber sheets and pads, rubber toys, old tires and tubes. Cotton and woolen fabrics are also acceptable.

★ ★ ★

ALPHEUS WINTER, vice-president of Bridgeport Manufacturers Association, warned Fairfield County manufacturers to make provision for replacing employees who will be drafted into the army during the coming months. Mr. Winter said he learned recently from Major H. J. Schwabacher, occupational deferment officer of the State Selective Service Office, that there soon would be a "rigorous limitation of deferments" for occupational reasons and that many employees now deferred would be called for military duty.

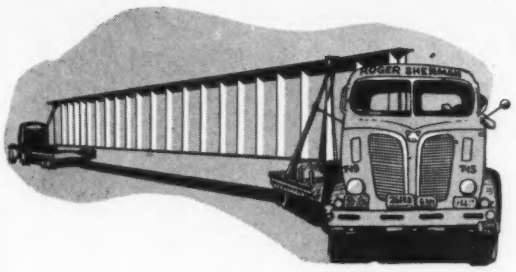
★ ★ ★

VOUGHT-SIKORSKY of Bridgeport has made extensive preparations for emergency. A blackout was tried with great success and a simulated bombing, during which ambulances and first aid training were called into play, was held. Results show that even though this preparation is incomplete, plant workers would know the proper safety measures to take if bombs should fall tomorrow. The nucleus of the plant's set-up is a rapidly growing number of volunteer workers who are being specially trained under a plan instituted by United Aircraft Corporation, of which Vought-Sikorsky is a division.

★ ★ ★

AT A SPECIAL MEETING of executives of chambers of commerce and other organizations, J. T. Madigan, special agent in charge of Connecticut FBI, gave assurances that up until the present time there has been no evi-

(Continued on page 24)



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Whenever you need moving done — whether it's a piece of office furniture or a 100 ton steel girder — you'll make no mistake when you call in ROGER SHERMAN. Long experience in hauling and hoisting puts us in position to handle your work rapidly, carefully and economically. Our representative will gladly call at any time with all the facts and figures. Your inquiry incurs no obligation, of course.

THE ROGER SHERMAN TRANSFER CO.

HARTFORD 8-4153 **NEW HAVEN 6-1368**

CONNECTICUT AT WAR

(Continued from page 22)

dence of foreign organized or directed sabotage in this country. He pointed out that much that is mistaken for sabotage is due to the speeding up of all branches of industry during this emergency. He declared every one can help in fighting against sabotage, espionage and subversive activities by reporting any information, no matter how insignificant it may seem, of organizations, movements or individuals that appear suspicious.

★ ★ ★

OFFICIALS OF LEADING Connecticut defense plants have pledged their utmost cooperation to the war program outlined by President Roosevelt. Eugene E. Wilson, president of United Aircraft said the "aircraft industry's declaration of war came a year and a half ago when the President issued his first call for airplanes." Herman W. Steinkraus, vice-president and general manager of Bridgeport Brass is taking steps to increase the production of cartridge brass and artillery cartridge cases as its part in the production job. C. K. Davis, president of Remington Arms, stated: "President Roosevelt has called upon American industry to perform a colossal task in order to hasten victory. He will find, I believe, a willing response. . ." Among those who have pledged cooperation are R. C. Swanton, assistant secretary of Winchester Repeating Arms, New Haven, and John H. Goss, president of Scovill Manufacturing, Waterbury.

★ ★ ★

INMATES OF DANBURY FEDERAL Correctional Institution are probably now making leather and flannel gloves. Two of the shop buildings will be equipped for the manufacture of mittens, which will be available only to federal agencies. The factory will employ approximately 50 inmates and will be managed by a civilian force of five men.

Much of the emphasis will be on vocational training, with an effort being made to not only teach the men good work habits but also to assist them in developing specific skills. Inmates who satisfactorily complete their apprenticeships will have an opportunity to earn good wages. These wages are restricted to men having dependents and paid with the understanding that the major portion be sent home.

★ ★ ★

THE FIRST OF THREE trans-Atlantic flying aces being built by the Vought-Sikorsky division of United Aircraft for American Export Airlines was christened at Stratford last month by Mrs. Henry A. Wallace, wife of the Vice-President. The giant 4-engine monoplane made its maiden flight the following day and for 25 minutes circled over the Stratford-Bridgeport area. See cut below.

Breaking a bottle of champagne over the flying ace's prow, Mrs. Wallace christened it "Excalibur". Other speakers at the ceremony included Igor I. Sikorsky, engineering manager of Vought-Sikorsky; Raycroft Walsh, vice president of United Aircraft; and Alex Sperber, foreman in charge of construction. C. J. McCarthy, general manager of Vought-Sikorsky, presided.

HOW LONG WILL YOUR FACTORY BE IDLE AFTER THE SHOOTING STOPS?

Work around the clock! Earn the E flag. But remember the suddenness of World War I Armistice and cancellations of war orders?

Your normal peacetime markets are now being permanently altered due to changed raw materials, designs, products, new developments, lost customers, etc. There will be some shut-down period. The road to post war profitable production will be no easy, fast traveling Merritt Parkway; therefore alert, sales-minded management will NOW place experience and skill to work on their special problem.

From 20 years experience in many related problems, I can bring to your management answers making sense. I can plan-the-work, work-the-plan. When shall we talk it over?

CHARLES E. PROUT
Suite 909 Graybar Bldg., N. Y.

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NEW and USED OFFICE FURNISHINGS

STEEL and WOOD DESKS, CHAIRS and TABLES

FILING EQUIPMENT

DRAFTING TABLES

SAFES and LOCKERS

SHOP EQUIPMENT and Numerous Items Not Mentioned

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BARNEY'S INC.
HARTFORD, CONN.
TELEPHONE 7-8129

PRIORITY HELP for manufacturers doing an annual business of $100,000 or less will be immediately available through a new plan announced today by Edwin L. Howard of Hartford, district manager of the Priorities Field Service, WPB. Known as the "modified production requirements plan", it is designed to provide priority assistance to the smaller manufacturer engaged in war or essential civilian production. Under the plan, assistance will be given for periods of three months at a time.

★ ★ ★

ALL AUDITORIUMS of Connecticut Light and Power have been placed at the disposal of the State Defense Council for emergency use as temporary hospitals or relief stations, it was announced by President C. L. Campbell.

The auditorium, seating from 75 to 250 persons each. can be quickly converted into emergency relief quarters, Mr. Campbell explained in a letter to Colonel Samuel H. Fisher, council administrator.

Ordinarily the rooms are used for cooking demonstrations and equipped with heat, light, hot and cold water, cooking and refrigeration facilities, and in some cases air-conditioned. They are located at Waterbury, Naugatuck, Meriden, Norwalk, New Britain, Winsted, Willimantic and Essex.

★ ★ ★

PUBLISHERS OF NEWSPAPERS, magazines, books and other printed publications have been urged by George Renard, acting chief of the Printing and Publishing Branch, to give immediate attention to the need for conservation of all critical materials used in printing. Materials widely used in this field include newsprint and other paper, inks, type metal and metallic plates, stapling and binding wire, rubber tires used on delivery trucks and photographic chemicals. Shortages exist in iron and steel, tin, lead, zinc, rubber and certain chemicals used directly or indirectly in the publishing field.

★ ★ ★

ELECTRIC BOAT of Groton launched the submarine "Guardfish" into the waters of the Thames River recently as another contribution to the Navy's rapidly expanding fleet. Rear Admiral John Marquart, commandant of the Brooklyn Navy Yard, and members of his staff were among those assembled with company officials and their wives for the launching ceremony.

★ ★ ★

DONALD F. CARPENTER, vice president of Remington Arms, told a Congressional committee that his company at capacity would be producing more ammunition in a six months period than the country's entire production for World War No. 1. Mr. Carpenter appeared before a House Military subcommittee studying charges of excessive profits in the manufacture of munitions. Witnesses at previous hearings told the committee that Leon K. Shanack of New York realized profits running up to 100 per cent in handling subcontracts for ammunition dies for Remington by spreading the work out to small manufacturers. Mr. Carpenter said that Shanack had received Remington orders for approximately $107,000 of Government business, but added he previously had been given $250,000 of orders for commercial and British production "which Remington paid out of its own pocket."

★ ★ ★

SILEX COMPANY of Hartford is engaged in defense production, and Frank E. Wolcott, president, told stockholders in the annual report that orders are increasing rapidly. The company has met the problem of a substitute for metal parts for the standard glass coffeemakers by using a special vitreous china to which it has applied a trade name, "Silite".

A WAR PRODUCTION CLINIC was held late in January in Yale's Coxe Memorial Gymnasium, at which were present 1,358 manufacturers, who sought to find out how they could enlist in America's battle of arms.

Sponsored by the Connecticut office of the Contract Distribution branch of WPB, the two-day clinic began with a formal speaking program in which Governor Hurley and other dignitaries asserted that the problem of getting all of America's industrial might into the fight against the Axis was one of tremendous urgency. Representatives Wm. J. Fitzgerald and James A. Shanley attended the clinic and conferred with businessmen. Earle L. Milliken, state director of Contract Distribution, and Carl A. Gray, chairman of the Division's state advisory committee, expressed confidence that the clinic was "getting results". Some orders were given sub-contractors on the spot and in dozens of other cases the ground-work was laid for future results in "spreading the work".

★ ★ ★

ROBERT M. KEENEY, industrial manager of Connecticut Light & Power, has been appointed assistant chief, Nickel Branch, Materials Division of the WPB in Washington.

A native of Connecticut, Mr. Keeney graduated from the Colorado School of Mines in 1910. He has been associated with Connecticut Light & Power since 1925.

AKROS BLACKOUT PAINTS

DESIGNED FOR YOUR NEEDS — INEXPENSIVE
EASY TO APPLY — FLAT BLACK IN COLOR

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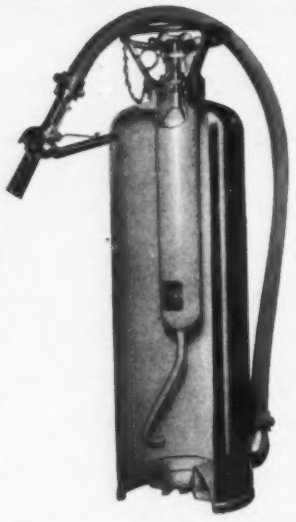

FOR BUILDING and maintaining morale, psychologists and personnel managers are unanimous in their belief that an appeal through posters is of inestimable value in accomplishing the objective. Available from the Office for Emergency Management is a broad selection of forceful, attention-compelling posters for display on plant bulletin boards. Titles, with brief descriptions, of several of these posters are given below. Direct requests to:

H. Andrew Dudley,
Industrial Campaigns Section,
Division of Information,
Office for Emergency Management,
Room 2757, Temporary "R" Building,
4th and Independence Avenues,
Washington, D. C.

AMERICA'S ANSWER! PRODUCTION
Industry on the job.

AMERICA CALLING!
Take your place in civilian defense; typographic.

DEFENSE NEEDS RUBBER
Save your tires; conservation poster.

DON'T LET HIM DOWN
The Army is doing its job.

GET IN THE SCRAP
Conservation poster; typographic.

GIVE 'EM BOTH BARRELS
Worker and soldier together.

MEN WORKING TOGETHER
Soldier, worker, and sailor.

UNITED WE STAND
Streamer for wall use.

WANTED FOR VICTORY
Waste paper, old rags, scrap metals, old rubber. Conservation poster; pictorial.

WE ARE NOW IN THIS WAR
Quote from President's December 9 speech; typographic.

"WE THE PEOPLE" ARM FOR DEFENSE
Typographic Poster.

★ ★ ★

SUBCONTRACTING FOR DEFENSE, a study prepared in the interest of stabilizing employment, just issued by the Policyholders Service Bureau of Metropolitan Life, may be secured from that company. It outlines the methods followed by 28 companies successful in meeting the problems of prime contracting or subcontracting. It includes a section on obtaining prime contracts for various types of supplies and equipment required by the Government; describes sources of information on governmental requirements and on procurement setup and procedure. It discusses the administration of and responsibility for subcontracting in the prime contractor's organization, and procedures commonly followed in selecting and scheduling work to be farmed out. The report also shows a variety of sources which primary contractors use to locate and contact subcontractors, and methods adopted for appraising their facilities and skill.

WPB has ordered the typewriter industry, which built more than 1,000,000 machines last year, to cut production substantially in 1942 and convert its available facilities to ordnance production. Still without definite information on the extent of the curtailment, now and in the future, officials declined to forecast the effect on the 10,000 employees in Hartford's two big plants—Underwood-Elliott-Fisher and Royal Typewriter. It was pointed out that whatever dislocations are encountered will be temporary, since both plants will eventually turn into armament work possibly requiring more hands than are now employed.

★ ★ ★

SMALL BUSINESS can be saved, but aid must not interfere with war production, Winthrop L. Carter, chairman of the Civilian Industries Committee of the NAM recently told Congress. He said any program of help should include 1) technical and financial assistance in converting plants to produce war orders; 2) detailed instructions on how to qualify as a primary or subcontractor; 3) minimum allocation of critical materials on a manhour basis; 4) most important, "give a big shot in the arm to wake up the small businessman to the fact that he must do something for himself." Mr. Carter opposed the idea that a separate government bureau be set up for small business.

★ ★ ★

BUILD UP your stockpiles of solid fuel is the urgent advice of the Office of Solid Fuels Coordination. This can be done, the Office claims, "by utilizing the surplus mine and transportation capacity now available."

★ ★ ★

INDUSTRIAL BUILDING UTILIZATION SECTION of the Plant Site Board located in the Social Security Building, Washington, D. C. is now seeking to collect all information on available vacant industrial buildings in the nation to make this information available to the Procurement Divisions of the Army and Navy. By following this procedure the Plant Site Board hopes to secure the cooperation of the various Procurement Agencies so that they will place contracts for the manufacture of war materials in such manner as to utilize all available industrial buildings.

DEFENDING THE FACTORY FRONT

(Continued from page 5)

"Purpose

"The purpose of the drill is to discipline employees in orderly movement from one point to another and to prevent panic.

"Control

"All persons in the building are subject to the instructions of drill within the building they are in at the time of drill. For example: Inspectors, clerks, engineers, etc., fall into groups lined up in the aisles nearest. Electric truckers place their trucks off the main aisles and take their place in the groups. The same ruling applies to storeroom and toolcrib attendants.

"Signal

"Short, intermittent blasts of the factory whistle is the signal for fire drill or air raid.

"Workers

"A. Be calm, stop, pull connected plugs, soldering irons, shut off your machine, turn off lights over machine, stand in aisle facing group leader awaiting his instructions.

"B. DO NOT MOVE FROM LOCATION, UNLESS INSTRUCTED TO DO SO BY THE GROUP LEADER.

"Group Leaders

"A. It is your responsibility to prevent panic. A little discipline on the part of everyone will do it. Be sure that your group is lined up in front of you in an aisle which is free and clear for movement. DO NOT MOVE YOUR GROUP UNTIL THE SIGNAL IS GIVEN TO YOU BY THE FOREMAN.

"B. If signal is given to you to move your group to nearest exit, face group left or right (whichever case may be) and lead them out of the building.

"Foreman

"A. The foreman will take his position in the aisle in the view of his group leaders. Ascertain if all groups under his charge are lined up and ready for movement if necessary. DO NOT MOVE ANY GROUPS UNTIL YOU GET YOUR SIGNAL FROM THE BUILDING WARDEN.

"Building Warden (Superintendent or General Foreman)

"Yours is the responsibility for the whole building. Place yourself in a position in the aisle where each foreman will be able to see you, and receive your signal. NO MOVEMENT OF GROUPS WILL BE MADE UNLESS TOLD TO DO SO BY YOU.

"Stairways (Building of more than one story)

"The method will be the same as outlined above. If it is necessary to leave the building, the top floor groups will be led by group leader (single file). The third-floor group will follow next in line, etc.

"This procedure will prevent jamming at the various levels on the way down.

"Guides

"For the purpose of blackouts, each building warden will assign an employee who works near the stairway to immediately take his post at the landing of the stairway with a searchlight when the signal is given to help guide the groups down the stairway, if the occasion arises."

Blackout in general requires the complete exclusion of all lights emanating from buildings, the glare from furnaces and extinguishing of dump fires—all, preferably, without interrupting production. The only answer to this is the screening or painting of windows. Skylights present a double problem, for not only is it necessary to darken them, but also to prevent reflection from their surface. In addition, protection must be provided for personnel and equipment under skylights.

The plant engineer must consider the effect of a sudden removal of the power load, which is likely to occur in a blackout. Unless fires are banked soon after the alert signal is given, safety valves may pop off conspicuous clouds of steam.

Tied in with illumination control at night is the matter of camouflage by day. The art of camouflage is to paint outstanding objects so that they will harmonize with the background and thus be concealed from air view. Unless factory camouflaging is studied from the air by experts, the opposite effect from that desired may result. It is essentially a technical problem and not for amateurs.

Bombs

It is most likely that the bombs which may strike your building will be of the incendiary or light explosive types. 2000 pound demolition bombs, if they come, will be reserved by the enemy for special points of high military value. Although few places offer greater protection from incendiary bombs and shell splinters than the heavy construction of a modern factory, no plant is well enough built to completely withstand bombing. Moreover, one-half of the largest plants in the state have high buildings of mill construction, the nature of which makes them particularly vulnerable to incendiaries. The same is true to a lesser extent of Connecticut's small and medium-sized plants.

To prepare for explosions in advance, the plant engineer should make a survey of weak spots and, where necessary, add reinforcements. He should also be ready to make immediate repairs and cut off broken pipelines or electric circuits. In many places there may be essential equipment for which new protective structures should be built. Positive consideration ought to be given to the fire hazard created by closely-parked cars in company parking areas. Three out of every four factories in the state permit parking in their yards. It would take but a single incendiary bomb to start an explosive fire among such combustible material. While safe distances between parked cars can reduce the chances of an extensive conflagration, they at the same time cut the parking capacity by over one-half.

Profiting from European wartime experience, one New York concern has built its plant with a strong steel framework and no walls or heavy parapets. It eliminated masonry on the upper floors and sloped the gypsum plank roof to the very edge of the building. The result is that a heavy explosion will blow in one side without seriously damaging the interior framework or injuring employees through collapsing walls. As a buffer against flying glass or bomb splinters, combination blackout and wire-mesh curtains cover the entire steel sash between each pair of wall columns.

Sabotage

Enemy action by land, especially of an overt sort, is almost as unlikely as an attack by air. But it can happen! Three types of sabotage are recognized: (a) against your product, (b) against your machinery and equipment; (c) against your plant. The first two are apt to be more sinister because less spectacular and direct. Careful bench inspection is the best antidote for (a). Only the cooperation of loyal employees will protect (b). Abrasive materials and chemicals should be handled exclusively by responsible, authorized persons. Employee education on the methods of saboteurs, through posters and other publicity, is also a good preventative.

The handiest device of a saboteur is fire, and the most vulnerable places in many plants are the boiler and engine rooms. Prevention of this danger is up to your guard system. More frequent and more vigorous inspections are called for, especially against fire risks, explosion hazards and mishandled valves. Always ready to assist defense plants in this matter are the State Police and the FBI.

Adequate fire-fighting equipment and personnel are absolutely essential

for full protection against air raid and sabotage. Many Connecticut plants have organized volunteer fire brigades and trained them for emergencies.* A competent fire organization consists of:

1) A main observation post.

2) Protected fire-watcher posts, with men, equipment and independent water supply to handle incendiary bombs.

3) Fire posts conveniently situated, but dispersed and decentralized, with necessary equipment.

4) Adequate main and auxiliary water supply systems.

5) Fire squads organized to deal with incendiary and high explosive bombs and fires.

6) A direct communication system between fire-watcher posts, fire squads, and headquarters of plant fire chief.

Access to roofs should be provided, and old equipment and rubbish removed from roof spaces.

Moreover, it is recommended that emergency service of many kinds, especially for night shifts, be available. Men should be appointed to inspect and check sprinkler valves. Unsprinklered areas should be provided with sand for dealing with incendiary bombs; in case of a breakdown of the water supply, the same would even apply to areas with sprinklers. In the latter respect it is noteworthy that only one in three defense factories has its own industrial water supply system, although the ratio for plants having their own power plant is considerably higher.

Squads of repair men, such as millwrights, carpenters, welders, shorers, and electricians, should be organized and trained. Their duties would be to rescue people from damaged buildings, prevent waste and destruction, and make temporary provision for continuing production. It would be the function of the regular staff, on the day shift, to effect permanent repairs. In addition, key men should be stationed on every shift at the various utility controls (switchboards, boilers, gas, steam and water controls). And emergency communication methods must be arranged between all squads and stations.

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* One estimate says about two out of every five.

All individuals involved in the protection organization of any company should be urged by the management to attend the Air Raid Warden schools held in various parts of the state.

Such general training will increase their knowledge of protection problems. In addition, it is expected that the local industrial protection committees will soon make provisions for training factory volunteers in specific jobs.

Overloading Systems

A special hazard confronting defense plants operating around the clock is the breakdown of operational routine, because of extra stresses and overloads. New processes, new materials, new machines, new workers—all present potential dangers because of unfamiliarity. Overloads on lines, circuits and machines may exceed safe limits and cause breakdowns. Continuous production makes it more difficult to keep machines, tools and fixtures in A-1 condition, inducing costly delays. Speed-up and congestion naturally increase the chances of accidents. Abnormal burdens on supervisory staffs may lead to oversight and unintentional neglect; the outcome may be poor housekeeping—the food of fire. For all these the solution is constant, thorough inspection.

Medical Services

Another vital aspect of protection is first aid and other medical facilities. Some of the larger companies are giving first aid courses within their plant under the direction of the Red Cross, while others are selecting a number of employees and sending them to local Red Cross schools. Forty Red Cross chapters are conducting standard and advanced courses, while, in addition, schools for first aid instructors are operating.

"One First Aider in Every Ten" employees is the slogan adopted by the State Defense Council. Carrying this out, an important war concern in Connecticut recently gave the standard first aid course to 700 employees, two-hour classes being conducted on a 24-hour basis. All 700 received their certificates within 10 days after starting the course. Since all training is being done through the Red Cross, companies are advised to get in touch promptly with their local chapter or branch chapter.

The advantage of having adequate first aid service in emergencies is obvious. It is equally useful, however, in day-to-day operation, since employees injured on the job can be readily treated. For ARP purposes the duties of first aid workers, as well as those of stretcher bearers and other members of the company's medical staff, should be detailed by the medical director. Every plant, for example, should have an emergency ambulance, a station wagon or truck equipped to carry two or more stretchers, and assign drivers to operate the ambulance when necessary. This provision will materially relieve the burden on community services.

The whole story would not be told unless some mention was made of company police. Guards should be selected with great care and thorough investigation; they must be trustworthy, mentally alert and physically quick. They are the eyes and ears of plant protection. They should know the location of the plant's fire apparatus. If possible, they should be armed. It is important that they be made directly responsible to the Superintendent of Plant Protection or to one company official. Briefly, their duties should be:

1) To keep unauthorized persons and vehicles from entering.

2) To check all personnel entering or leaving.

3) To patrol yard and buildings.

4) To guard restricted areas.

5) To keep order at all times on company premises.

Proper identification of employees and others having business in your plant consists of photographing, fingerprinting and providing them with some kind of tamper-proof badge or pass. Information on how to obtain good fingerprints can be found in the U. S. Civil Service Commission form No. 2741, issued December, 1939.

General information on Air Raid Precautions can be secured at moderate cost from the British Library of Information, New York City. Manuals on plant defense organization have already been made available to Connecticut manufacturers, and a special handbook is now being prepared by the State Defense Council. In addition, the Council is prepared to send speakers and movies to factories desiring to arrange programs on plant protection.

TRANSPORTATION

By N. W. FORD, *Traffic Manager*

Transportation of Defense Workers. In a recent address, Director of Defense Transportation Eastman indicated some concern about the transportation of defense workers to and from their places of employment. A few of the highlights of his talk, relative to this matter, which is causing anxiety among some Connecticut industrialists, were as follows:

(1) Every effort must be made to release all possible new and old bus equipment for defense plant use, and we propose to inventory and study all such equipment from that point of view. (Mr. Eastman had been told that there are 80,000 school busses which can be used in helping to care for the needs of defense plants.)

(2) The process of substituting bus for street rail service in cities (which has been going on apace) must cease for the time being.

(3) Sightseeing busses can be put to uses more important in the war effort.

(4) Possibly fleets of trucks which have been used principally in the movement of new automobiles from the plants can be adapted, with a comparatively small expenditure, to passenger use.

(5) New busses that may be constructed must be simplified and standardized in design and planned for the carriage of maximum loads, even if it adds heavily to the number of strap-hangers.

(6) Passenger automobiles available for transportation in the war effort, as in the moving of workers to and from the defense plants, must be used to capacity in both directions.

(7) Every possible expedient for conserving rubber and for keeping all equipment in good repair with a maximum of economy and efficiency must be put into practice.

(8) It will be part of my duty to do my utmost to protect the carriers against undue encroachment of the war production program upon the materials and supplies which are as necessary to the well being of transportation as food is to the human body.

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Gasoline Consumption and Registrations Increase. Based on reports from tax collection agencies covering at least eight months of the year, the Public Roads Administration of the Federal Works Agency has stated that gasoline consumption in the United States was 2½ billion gallons greater in 1941 than in 1940. The increase amounted to 10.7 per cent for the entire United States. War activity, particularly troop and transport movements, and transport for war production undoubtedly accounted for a considerable part of the increase. It is estimated that motor vehicle registrations have increased 7.3 per cent during the year. This includes 29,375,000 passenger cars, 68,000 busses and 4,911,000 trucks. State and Federal vehicles are not included in the estimate.

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Unified Air Line Planned by American Republics. The aim of the American Aeronautical Commission, now being organized by the American Republics, will be to develop a master plan of air communication throughout this hemisphere. Air travel under this plan will be nearly as simple between the American Republics as between states within the United States at present.

★ ★ ★

Report Shows Motor Trucks Transport 6.58% of All Freight. According to data compiled by H. E. Hale of the Equitable Life Assurance Society, all of the nation's freight transportation facilities operated a total of more than 584 billion ton-miles in 1940, motor trucks accounting for 6.58 per cent of the total. The railroads were responsible for 64.25 per cent of the total; Great Lakes and inland waterways 20 per cent and oil pipe lines 9 per cent. The ton-mile figures for each agency were: railroads, 375,285,000,000; trucks, 38,459,000,000; Great

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★ ★ ★

Passenger Fare Increase. By authority of the I. C. C., passenger train fares were increased ten percent effective February 10. This was the result of an application filed by the railroads in Ex Parte 148 for a general increase of 10 per cent in their passenger fares and freight rates. Fares specially published for application to members of the military or naval forces of the United States on furlough, and fares published as extra fares applicable in connection with transportation on particular trains are excepted.

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Increase of Express Rate Authorized. The Interstate Commerce Commission permitted the Railway Express Agency, Incorporated to apply an emergency charge of 10 cents per less-than-carload shipment of one or more packages moving at first, second and third class rates and multiples thereof and on less-than-carload shipment of money. The surcharge became effective January 20. The proposed emergency charge on other traffic moving on less-than-carload commodity rates was suspended, in I. & S. Docket 5100, until August 20, 1942.

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Priorities on Air Travel. Brig. Gen. Donald R. Connolly, Military Director of Civilian Aviation, has established priorities for the use of seats and cargo space on regularly established commercial airlines. Those entitled to priority are:

(1) White House personnel.
(2) Army, Navy and Marine Corps ferry command pilots traveling under orders.
(3) Personnel of the armed forces and Allied military mission whose orders direct travel by air.
(4) Army and Navy equipment, ammunition, supplies and material essential to the war program.
(5) Personnel of Government departments and agencies whose activities are essential to the war effort, and whose travel is certified for priority by air.

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Exemption of Transportation Employees from Overtime. An amendment to regulations extending the exemption of transportation employees from overtime has been promulgated by Thomas W. Holland, Administrator of the Wage and Hour Division, U. S. Department of Labor. The principal effect of the amendment will be to void application of the 40-hour week to highly-paid crews ferrying military planes in the United States and to other countries.

The amendment adds another classification of "administrative" employees to whom the 40-hour week and minimum wage do not apply. "Administrative" employees must be paid on a salary or fee basis at a rate of not less than $200 a month, exclusive of board, lodging or other facilities. Subsection (4), added to Section 541.2 of the regulations, reads as follows: "(any such employee) who is engaged in transporting goods or passengers for hire and who performs, under only general supervision, responsible outside work of a specialized or technical nature requiring special training, experience, or knowledge, and whose duties require the exercise of discretion and independent judgment."

This amendment is limited to employees of common and contract carriers doing "outside work"; that is, engaged in transporting. Under the statute, most employees of railroads, and of air-transport lines, and all drivers of interstate trucks and busses are exempt from the 40-hour week.

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Rule 24 Suspended; Also Rule 34 With Exceptions. Service Order No. 68 of the Interstate Commerce Commission suspends the operation of Rule 24 of Consolidated Freight Classification No. 14 and also affects Rule 34. This order was issued because the I. C. C. believes that the present war "requires immediate action to prevent shortage of railroad equipment and congestion of traffic" and that the provisions in Rule 24 and 34, "and other tariffs containing similar provisions in respect of the furnishing, substitution, and use of multiple cars for single shipments, subject to carload rates, result in wasteful car service in interstate commerce."

The pertinent sections of the Commission's order are as follows:

(1) That the operation of Rule 24 of Consolidated Freight Classification No. 14, as amended, be and, it is hereby suspended.

(2) That the operation of Rule 34 of Consolidated Freight Classification No. 14, as amended, insofar as it permits railway freight cars to be used for the shipment of carload freight otherwise than subject to the carload minimum weight for each car used be, and it is hereby, suspended: Provided, That this paragraph shall not be deemed to apply to or affect those portions of Rule 34 which provide carload minimum weights graduated according to car length or capacity.

(3) That the operation of all provisions in all other tariffs filed by common carriers by railroad with the Commission which, in like manner as, or in modification or extension of, Rule 24 and of that portion of Rule 34 herein suspended, permit railway freight cars (whether such cars are loaded by shipper or carrier) to be used for the shipment of carload freight, including livestock, otherwise than subject to the established carload minimum weight for each car used, be, and they are hereby, suspended: Provided, That this paragraph shall not be deemed to apply to or affect the provisions of Rule 29 of Consolidated Freight Classification No. 14, as amended, or any similar provisions in other tariffs, relating to minimum weights for carload shipments of articles which by reason of their length require two or more open cars for their transportation.

(4) That all outstanding orders of the Commission, insofar as they conflict with the provisions of this order, be, and they are hereby, suspended.

The suspension became effective February 15.

INDUSTRY'S SHOCK TROOPS

(Continued from page 10)

clumsy utility, gave hollow screws another boost to the front, since their smooth, polished heads can be countersunk flush with face plates and housings, presenting an overall streamlined surface. Another advantage that accrues to appearance: there are no slots to burr or become worn; no heads to become rounded from continual wrench usage. For holding collars on shafts or for any application where frequent adjustment of screws is demanded, the hex-socketed screw has no equal because its socket will resist wear indefinitely so long as worn-out, round-cornered keys are not used.

Other users specify hollow screws primarily because of their "fool-proof" qualities. It is next to impossible to remove one of these screws, properly set up, without a six-sided key. A public utilities company had been having trouble with thefts of ventilating fans placed in its telephone booths. To stop the pilfering, hollow cap screws were employed. After the screws were driven home, the sockets were filled with a putty-like substance and the heads painted over so that the head surface closely resembled a rivet. Another company, troubled by theft of manhole covers, followed a similar procedure but poured into the socket holes a low melting point metal which could be easily removed by repairmen but which served as a deterrent to thieves. An aircraft instrument manufacturer makes his product tamper-proof by using a hollow set screw and filling the socket with sealing wax, impressing a seal therein. The screw cannot be moved without breaking the seal.

Aircraft makers employ legions of hollow screws because of their resistance to vibration. Allen pipe plugs of light, strong duralumin are standard with leading engine manufacturers, while cap screws are widely used in the assembly of wings, fusilage and landing gear. "Allens" are up front in other phases of national defense, too: battleship turrets, tanks, anti-aircraft guns, bombs and rifles.

Since they were first offered in 1910, Allen products have been sold exclusively through mill supply Distributors. At present 750 Distributors, strategically located in major industrial areas throughout the U. S. A. and Canada normally carry complete lines of Allen Hollow Screws and Diemakers' Accessories, making it possible for customers to get on-the-ground service from expert supply men and close-at-hand stocks. Sixteen full-time Allen field representatives assist Distributors with sales problems, conduct sales meetings, aid in opening up new markets and, in general, act as liaison men linking the parent Company and the Distributors with the industrial consumer.

1942 marks Allen's thirty-second year in business and finds the Company more prominent than ever in the field it pioneered and largely developed. Present officials of the Company are: Horace R. Grant, President; Edwin Dimock, Vice-President; Willard C. Waldo, Vice-President in Charge of Sales; S. K. Dimock, Treasurer; F. J. Whitney, Secretary; Clarence S. Gates, General Superintendent; James G. Osmond, General Manager; Goodrich B. Pratt, Chief Engineer.

SALVAGE FOR VICTORY

(Continued from page 12)

work, through special bulletins or notices, house organs and other publicity. National Wholesalers Associations also are being organized by the association executives. A good example of trade association results: one coal company which made a drive to gather up scrap and get it back into circulation uncovered 229 tons of iron and steel scrap, four old boilers, stokers and stacks, weighing approximately 100 tons, and more than 10 tons of scrap copper and bronze.

The third channel is through industries vertically, such as public utilities. The initial response from railroads, gas and electric companies indicates a definite desire to move every ounce of scrap into the stream. A large utility in New York, as a result of government action, has assigned 100 men to the job of salvaging obsolete equipment, supplies, etc. In its first week of clean-up operation some 1500 tons of material have been moved.

Almost every reply received by the Bureau says, "We have followed your suggestion and have placed ..... in complete charge of salvage operation".

A large tire company in Akron, Ohio, with an efficient, regular salvage program in operation, put on a special drive following the suggestions of the Industrial Salvage Section: "In one week's time we uncovered more than 3,000,000 pounds, mostly iron and steel scrap, in excess of the weekly average salvage figures."

These are but a few of the reports coming back in increasing numbers.

There is another channel of activity which has to do with our own armed services and government agencies. Currently the Army and the Navy departments are handling their own salvage operation with a high degree of efficiency.

Cooperation by each and every industrial organization is solicited. Only through a complete, all-out effort by everybody will the desired and most necessary results be produced. The problem really is not so much a *shortage* of scrap as it is a *dislocation* of scrap.

The formula as outlined by the chief of the Industrial Salvage Section is simple:

1. Put some one individual in charge of salvage throughout all departments and give him authority to act.
2. Devise an effective method of bringing the message of conservation and salvage to *all* your employees.
3. Build your plan into a program and keep it alive.
4. Segregate your scrap—keep it clean and free from contamination.
5. Dispose of your scrap regularly and through regular channels.
6. Do it NOW!

"Get In The Scrap" posters and informational material may be obtained for the asking. Write to George T. Weymouth, Chief of the Industrial Salvage Section, Room 2075, Social Security Building, Washington, D. C.

EXPORT NEWS

By W. ADAM JOHNSON, *Commercial Secretary*

Foreign Trade Committee Elects Chairman. Harold W. French, Vice President of the Bridgeport Hardware Manufacturing Corporation, Bridgeport has been elected chairman of the Association's Foreign Trade Committee. Mr. French is well known in Foreign Trade circles, is secretary of the Bridgeport Export Managers Club, and has served on the committee for many years.

The committee meets monthly to consider export problems confronting Connecticut manufacturers. Manufacturers interested in foreign trade are invited to attend any of the meetings. All members of the committee are anxious to be of assistance in helping Connecticut to develop its foreign trade.

At the February meeting, the Foreign Trade Committee presented a gift to the retiring chairman, Mr. James E. Bryan, President, The Undine Twine Mills Inc., Moodus, in appreciation of his long and able service.

Other exporters appointed to serve on the committee were:

H. F. Beebe, Manager
Foreign Department
Winchester Repeating Arms Co., New Haven

L. B. Hough, Vice President
The Collins Company, Collinsville

J. M. Schaeffer, Export Manager
The Waterbury Farrel Fdry. & Mach. Co., Waterbury

W. S. Spencer, Export Manager
Sargent and Company, New York

John D. Garrett, Export Sales Manager
Arrow-Hart & Hegeman Elec. Co., Hartford

Charles Engelke, Export Manager
The Miller Company, Meriden

H. G. Farwell
Raybestos Manhattan, Inc.
Bridgeport

E. H. Long, Export Manager
The Seamless Rubber Company, New Haven

A. Ribadeneyra
Stratford

J. G. Middleton, Export Manager
The Capewell Mfg. Co., Hartford

J. F. Dement, Export Manager
Dictaphone Corp., Bridgeport

A. P. Keeler, Export Manager
The Fuller Brush Co., Hartford

F. D. Lehn, Director
International Division
Underwood-Elliott-Fisher Co., New York

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March Meeting. The regular monthly Foreign Trade meeting will be held on March 19th, 1942 at 6:30 P. M. at the Waterbury Club, Waterbury. Any manufacturer interested in foreign trade is invited to attend this meeting.

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Canadian Foreign Trade in Chemicals Shows Increase. The high level registered in Canada's foreign trade in chemicals in 1940 was accentuated during the past calendar year. The most significant development in this trade in 1941 was the sharply expanded exports to the United Kingdom. Out of total exports from Canada of chemicals and allied products during the first 11 months of 1941, amounting to $52,541,000, $23,761,000 represented shipments to the United Kingdom, and $13,420,300 to the United States, according to preliminary official Canadian statistics.

The United States continued to rank as the outstanding supplier of chemicals and allied products to Canada during the past year. Total imports of items in these classifications in the first 11 months of 1941 amounted to $60,006,100 of which $49,450,700 represented imports from the United States and $8,292,900 from the United Kingdom. No other details of this trade are available, it was pointed out.

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Spanish Merchant Marine Reported Composed of 770 Useful Vessels. Spain's merchant marine is reported to consist of 770 useful vessels of all classes having an aggregate tonnage of 872,000 tons. Thirteen new vessels with a total tonnage of 82,600 tons have been recently placed in service. A locally published report estimates that as of October, 1941, there were 20,000 workers employed in 27 privately owned shipyards in Spain and that the present Spanish ship construction program would involve an investment by the end of 1941 of 400 million pesetas (approximately $36,000,000). At the close of September a Diesel-engined tanker of approximately 11,000 deadweight tons was launched at Bilbao shipyards. Two other tankers, each of 11,000 deadweight tons, are said to be under construction, one in the shipyards at Valencia and the other at Bilbao. According to the Spanish press, Spain's tanker fleet currently consists of 100,000 metric tons.

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Silk-Growing Industry Started in Venezuela. Efforts are being made in Venezuela to develop a domestic silk-growing industry. A local company recently organized now has 500,000 mulberry trees in its experimental station situated in the State of Miranda, and 100,000 silk works that are now spinning cocoons. Other experimental stations will be installed later in various sections of the country which are suitable for the growing of mulberry trees.

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British Paper Shortage Menaces Historical Documents. A sidelight of Britain's current paper shortage is the dilemma in which historians, researchers and social scientists find themselves. The paper shortage menaces historical records in two ways. Current paper salvage campaigns have fired some paper collectors with such misplaced enthusiasm that they have fed invaluable documents, particularly of business historical importance, to the pulp machines. Secondly, the quality of British paper is said to have declined so dangerously that many of the records being made today will have

very little durability. Paper must possess certain fiber qualities and be free of any iron content if deterioration and discoloration are to be prevented. It is alleged that the heavy demands of the aircraft industry had limited the amount of non-ferrous sulphate of alumina available for commercial usage, and that it had become essential to assure that available supplies be used in the durability of papers for technical reasons or for the purpose of permanent records.

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Further Progress in Civil Aviation in Cuba Reported. Commercial aviation in Cuba continued during 1941 the progress registered in the preceding year. The number of planes engaged in the national air traffic increased from 3,036 in 1940 to 3,626 in 1941, a gain of approximately 20 percent. Passengers carried rose from 54,031 to 65,168, an increase of 21 percent. Mail shipments by airplane increased from 101,773 pounds to 119,227 pounds, up 18 percent, while express shipments registered the large gain of 53 percent.

The bulk of Cuban air traffic is handled between Havana and Miami, Florida. Out of a total of 3,636 planes entering and departing from the Island, 2,861 were reported in the traffic between these two points, leaving 264,212, and 289 planes, respectively, handling the traffic to and from Mexico, the Canal Zone and the West Indies.

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Beryllium Mining Deposit Opened Near Winnipeg, Canada. Because of increasing interest in beryllium for copper alloys in war work, steps are being taken to develop a deposit of this ore located near Winnipeg, Manitoba Province, Canada. As far as is known the only deposits of beryl in North America which have been previously worked are in the State of Colorado. There are several known occurrences of this mineral in Canada but no commercial production has ever been reported. A company known as the Mobirk Beryllium Mining Company, Limited, has four groups of claims in the Winnipeg River Area. All of these have been partially investigated and shafts have been sunk on two of them to depths of more than 100 feet. A stock pile of beryl crystals and massive beryl is being built up in the hope that it may soon be sufficiently large to warrant the construction of a reduction plant in Winnipeg.

Beryllium metal manufactured in the United States cost $45 a pound in 1940 and imports, chiefly from Argentina and Brazil, were several times greater than domestic production. Winnipeg mining authorities believe that a price in that city of $23 to $25 a pound would warrant the construction of a plant.

ORGANIC SOLVENTS

(Continued from page 7)

the exposure of the worker to safe limits. The general methods available for keeping the amount of vapor in the atmosphere below injurious concentrations are provision of enclosures, general ventilation, local exhaust ventilation, substitution of less toxic for more toxic solvents, and wearing of special protective equipment. Wherever there may be a question as to whether control measures are adequate, the vapor concentrations to which workers are exposed should be determined. Another check on the adequacy of control measures may be obtained through medical examination including, as the case may require, blood and urine analyses. Special procedures have been developed for benzene and methyl alcohol whereby urine analysis shows whether or not the worker has been exposed to excessive concentrations of these materials before actual injury to health occurs.

In conclusion it should be emphasized that any excessive exposure to solvent vapors, whether they be of the more poisonous or less poisonous group, should be avoided. Especially where the more toxic solvents are employed, it is particularly desirable to have determinations made of the vapor concentrations to which the workers are exposed. It is also of importance to have definite information that the solvent vapor concentration to which workers are exposed are within safe limits in those cases where a solvent may be replaced by one of greater toxicity, or where exposure may be increased because of longer working hours or changes in operations which would tend to produce more of the vapor in the atmosphere.

The State Department of Health makes regulations respecting concentrations of materials to which workers may be safely exposed. The Bureau of Industrial Hygiene of the State Department of Health makes studies to determine whether any health hazard exists and recommends measures for controlling any health hazards. It maintains a consultation service on medical, chemical and engineering problems provided without cost.

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BUSINESS PATTERN

During January the index of Connecticut business activity continued its upward trend and stood at an estimated 82.7% above normal. The index of general business activity in the United States, on the other hand, fell off slightly more than a point to an estimated 29.5% above normal.

As in December, the greatest increases in Connecticut were registered in the indexes of manhours and employment. An indication of January gains is afforded in the fact that despite a slight loss in the Bristol district, employment in the Hartford County area rose by 4,000 over December, while a gain of 596,000 manhours in the same area was registered. Figures just released by the Department of Labor place the employment gain in Connecticut from December, 1940 to December, 1941 at 84,000 or, percentage-wise an increase of 13.3%. This compares with a 9.1% increase for the New England states, excluding Connecticut.

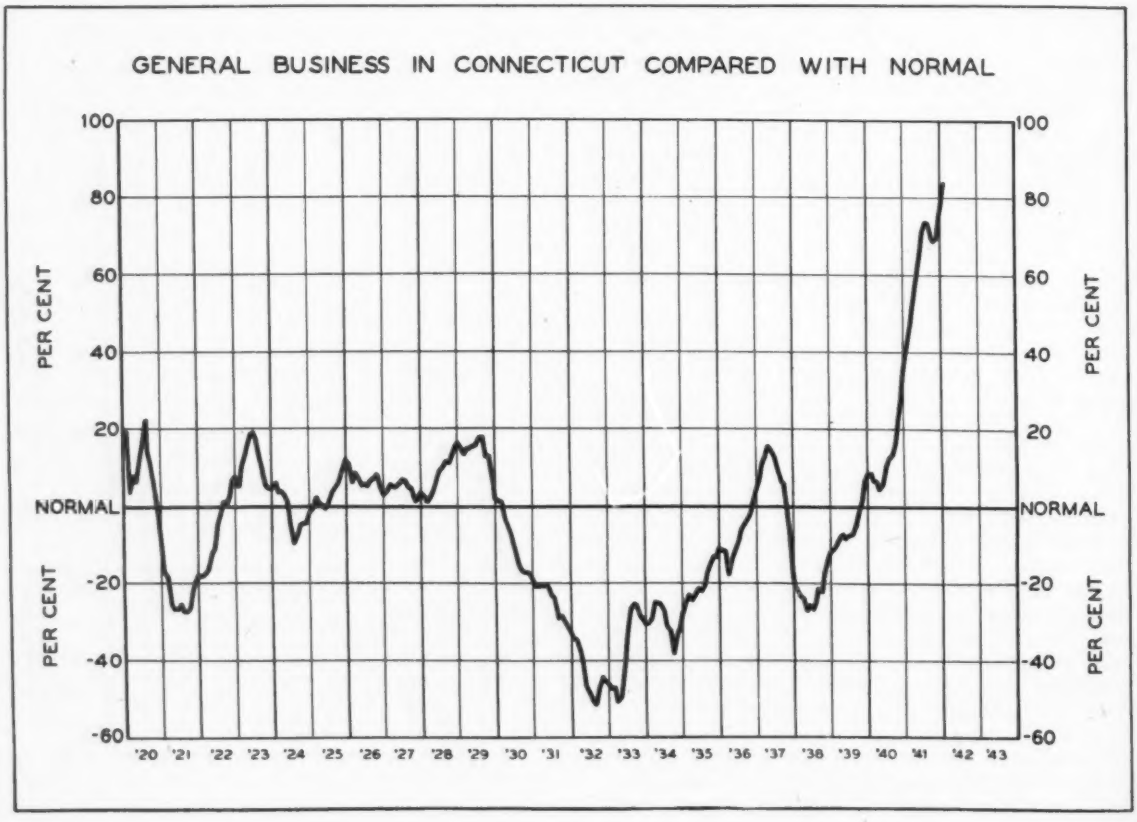
Although average daily freight carloadings originating in fourteen Connecticut cities continued to rise, the seasonal weight imposed in January caused the index to drop off to 45.1% above normal from 48.5% in December. A sharp reduction in carloads of building materials carried was offset by increased loadings of coal and metal.

The third consecutive decline in the index of construction work in progress in Connecticut left the index at 40.8% above normal in January. Since October, 1941 the index has slumped over 30 points. Value of new non-residential construction awards for January was approximately half the total for December. While a similarly sharp contraction occurred in residential awards, it is reported that approval has been secured for the erection of more than 4,500 defense family dwelling units in Connecticut, largely in the New London area. In addition, an as yet unknown number of houses are to be built in Bridgeport.

In connection with housing, results of a survey announced recently by the Works Progress Administration show that during the period from March, 1940 to September, 1941 rents in selected cities showed the following increases: New London 5.6%, Meriden 9.5%, Bristol 8.9% and Middletown 2.1%.

During the first week of February the Bureau of Labor Statistics' index of nearly 900 price series fell off 0.2% from the high point of the preceding

(Continued on page 35)



ACCOUNTING HINTS

(Contributed by Hartford Chapter, N.A.C.A.)

INSPECTION COSTS:

Inspection of product both at intermediate stages and in finished form has assumed added importance under present times and operating conditions. The vital necessity of precision and conformance with specifications need not be expounded upon by this department.

Inspection costs may present considerable difficulty with some companies, as to proper accounting treatment, particularly those with a wide variety of products. It is customary for some companies to treat the cost of inspection as a part of the general overhead. This method has the advantage of maximum simplicity both from the standpoint of factory accounting and cost compilation, and in cases where the products are of a similar nature, or where the inspection requirements are similar will usually be found to be quite satisfactory. A convenient method of handling under these circumstances is to include all inspection charges, both direct and indirect, in one account, which becomes a part of general overhead, which in turn may be distributed to all producing departments, using one of the regularly accepted methods of overhead application, such for instance, as direct labor or productive hours.

In the case of companies where the line of products comprises items of a totally dissimilar nature, and where the inspection requirements vary widely, the inclusion of inspection in the general overhead will result in a distortion of cost, benefiting those products requiring a maximum of inpection at the expense of those requiring a minimum of inspection. In cases of this kind it is usually found desirable to treat the inspection department as one of the productive departments. All wages of inspectors working as such would be treated as direct labor, and the normal manufacturing expenses, such as supervision, light, heat and power, supplies, etc., would be treated as departmental overhead, in the same manner as for any other producing department. The items of inspection would be treated as one of the normal productive operations for cost purposes and the elements of direct labor and overhead would be applied either on the basis of a predetermined standard, if a standard cost system is used, or on an actual basis if a result of operations.

One of the definite advantages resulting from this system is the possibility of ascertaining, either from a comparison of actual inspection costs or from cost variance reports, the products which are responsible for excessive inspection costs. This information may be very useful in tracing down deficiencies or faults in manufacturing operations, or in improving manufacturing procedures. This principle can be applied with such refinements and details as may be required by the conditions prevailing in any specific company or industry.

1941 PROFITS AND TAXES:

It was inevitable that with the anticipated increase in 1941 earnings by many corporations, the taxes thereon would increase very substantially, but some of the reported results in this respect reach heretofore undreamed of proportions. A comparative tabulation of 1940-1941 taxes, and net income after taxes, reveals some very strange facts: the U. S. Steel Corporation taxes show an increase of over 400%, whereas the net after taxes results in only a 10% increase, but, further, the total tax bill exceeds the balance of net income. Another nationally known corporation closed its accounts with a fourfold increase in taxes and a 25% decrease in net after taxes.

The 1940 annual report of a listed corporation contained this serious remark: "There exists a contingent liability of this and other corporations. It is the huge Federal Government debt." A comparison of 1940 with 1941 and future years lends emphasis to this observation, and management must take its proprietary interests increasingly conscious thereof.

★ ★ ★

BUDGETING FOR A MANUFACTURING ORGANIZATION is a greater problem in war time than in peace time. This subject will be covered at the monthly meeting of Hartford Chapter, National Association of Cost Accountants, Tuesday, March 17. Junius H. Cooper, Division Accountant and Assistant Treasurer of Hamilton Standard Propellers will be the speaker.

BUSINESS PATTERN

(Continued from page 34)

week to 95.7% of the 1926 average. At the present level the all-commodity index is nearly 19% above the corresponding week of 1941 and 0.7% over the first week of January, 1942. The sharpest recent decline occurred in the farm products group which fell off 1.2% when it became apparent that the emergency price control act of 1942 would not immediately be used to raise average farm prices to 110% of parity.

The Fairchild Index of Retail Prices charged by department stores in the United States showed in January the largest monthly advance since September of 1941, rising 1.8% over December. The index was 17% above the corresponding month of 1941 and 24% above the low immediately preceding the outbreak of hostilities in 1939. All groups rose in January, the largest increases occurring in men's apparel, home furnishings and piece goods.

The cost of living in the United States as reported by the National Industrial Conference Board showed a rise of 1.4% from December, 1941 to January, 1942. The January index at 94.5 compared with 86.0 for the corresponding month in 1941. Since the beginning of war in 1939, food has risen 26%, clothing 15%, fuel and light 8%, sundries 6% and housing 4%. Nevertheless, the cost of living in January, 1942, according to the Conference Board index, was but 6% higher than in October, 1937, and was still 6% below the average for 1929.

IT'S MADE IN CONNECTICUT

Ed. NOTE. This department, giving a partial list of products manufactured in Connecticut by company, seeks to facilitate contacts between prospective purchasers in domestic or foreign markets and producers. It includes only those listings ordered by Connecticut producers. Interested buyers may secure further information by writing this department.

(Advertisement)

Accounting Forms
The Baker Goodyear Co — New Haven

Accounting Machines
Underwood Elliott Fisher Co — Hartford

Acetylene
National Cylinder Gas Company — Meriden

Adding Machines
Underwood Elliott Fisher Co — Hartford

Advertising Printing
The Case Lockwood & Brainard Co — Hartford

Advertising Specialties
The H C Cook Co 32 Beaver St — Ansonia
Scovill Manufacturing Co (Made to Order) — Waterbury
The Waterbury Button Co — Waterbury

Aero Webbing Products
Russell Mfg Co — Middletown

Air Compressors
The Spencer Turbine Co — Hartford

Aircraft—Repair & Overhaul
United Airports Div United Aircraft Corp — Rentschler Field East Hartford

Airplanes
Vought-Sikorsky Aircraft, Div United Aircraft Corp — Stratford

Aluminum Castings
Newton-New Haven Co 688 Third Avenue — West Haven

Aluminum Forgings
Scovill Manufacturing Co (small) — Waterbury

Aluminum Goods
Scovill Manufacturing Co (To Order) — Waterbury
The Waterbury Button Co — Waterbury

Aluminum—Sheets & Coils
United Smelting & Aluminum Co Inc — New Haven

Ammunition
Remington Arms Co Inc — Bridgeport

Artificial Leather
The Permatex Fabrics Corp — Jewett City
Zapon Div, Atlas Powder Co — Stamford

Asbestos
Rockbestos Products Corp (insulated wire, cable and cords) — New Haven
The Raybestos Div of Raybestos-Manhattan Inc (brake lining, clutch facings, sheet packing and wick) — Bridgeport

Assemblies, Small
The Greist Manufacturing Co — New Haven
The Wallace Barnes Co Div, Associated Spring Corp — Bristol

Auto Cable Housing
The Wiremold Company — Hartford

Automatic Control Instruments
The Bristol Co (temperature, pressure, flow, humidity, time) — Waterbury

Automobile Accessories
The Rostand Mfg Co (windshields, seats, and body hardware) — Milford
The Raybestos Div of Raybestos-Manhattan Inc (brake lining, rivets brass, clutch facings, packing) — Bridgeport

Automotive Friction Fabrics
The Russell Mfg Co — Middletown

Automotive & Service Station Equipment
Scovill Manufacturing Co (Canned Oil Dispensers) — Waterbury
The Raybestos Div of Raybestos-Manhattan Inc (brake service machinery) — Bridgeport

Bakelite Moldings
The Waterbury Button Co — Waterbury

Balls
The Abbott Ball Co (steel bearing and burnishing) — Hartford
The Hartford Steel Ball Co (steel bearing and burnishing, brass, bronze, monel, stainless, aluminum) — Hartford

Barrels
The Abbott Ball Co (burnishing and tumbling) — Hartford
The Hartford Steel Ball Co (tumbling) — Hartford

Bathroom Accessories
The Autoyre Company — Oakville
The Charles Parker Co — Meriden

Bearings
New Departure Div of General Motors (ball) — Bristol
The Fafnir Bearing Co (ball) — New Britain
Norma-Hoffmann Bearings Corp (ball and roller) — Stamford

Bells
Bevin Brothers Mfg Co — East Hampton
The Gong Bell Mfg Co — East Hampton
Sargent and Co — New Haven
The N N Hill Brass Co — East Hampton

Belting
Hartford Belting Co — Hartford
The Russell Mfg Co — Middletown
The Thames Belting Co — Norwich

Benches
The Charles Parker Co (piano) — Meriden

Bicycle Coaster Brakes
New Departure Div General Motors Corp — Bristol

Bicycle Sundries
New Departure Div General Motors Corp — Bristol

Binders Board
Colonial Board Company — Manchester

Biological Products
Ernst Bischoff Company Inc — Ivoryton

Blades
Capewell Manufacturing Company, Metal Saw Division, (hack saw and band saw) — Hartford

Blocks
Howard Company (cupola fire clay) — New Haven

Blower Fans
The Spencer Turbine Co — Hartford
Colonial Blower Company — Hartford

Blower Systems
Colonial Blower Company — Hartford

Boilers
The Bigelow Co — New Haven
Petroleum Heat & Power Co (domestic only) — Stamford

Bolts and Nuts
Clark Brothers Bolt Co — Milldale
The O K Tool Co Inc (T-Slot) — 33 Hull St Shelton
The Blake & Johnson Co (nuts, machine screw-bolts, stove) — Waterville

Box Board
The Lydall & Foulds Paper Co — Manchester
National Folding Box Co — New Haven
New Haven Pulp & Board Co — New Haven
Robertson Paper Box Co — Montville

Boxes—Paper—Folding
Atlantic Carton Corp — Norwich
S Curtis & Son Inc — Sandy Hook
M S Dowd Carton Co — Hartford
National Folding Box Co (paper folding) — New Haven
The New Haven Pulp & Board Co — New Haven
Robertson Paper Box Co — Montville

Brake Linings
Colt's Patent Fire Arms Mfg Co — Hartford
The Raybestos Div of Raybestos-Manhattan Inc (automotive and industrial) — Bridgeport
The Russell Mfg Co — Middletown

Brass and Bronze
The American Brass Co (sheet, wire rods, tubes) — Waterbury
The Bristol Brass Corp (sheet, wire, rods) — Bristol
The Miller Co (Phosphor bronze in sheets, strips and rolls) — Meriden
The Thinsheet Metals Co (sheets and rolls) — Waterbury

Brass Goods
Sargent and Company — New Haven
Scovill Manufacturing Co (To Order) — Waterbury

Brass Mill Products
Bridgeport Brass Co — Bridgeport
Scovill Manufacturing Co — Waterbury

Brass Stencils—Interchangeable
The Fletcher Terry Co — Box 415, Forestville

Brick—Building
The Donnelly Brick Co — New Britain

Bricks—Fire
Howard Company — New Haven

Broaching
The Hartford Special Machinery Co — Hartford

Brooms—Brushes
The Fuller Brush Co — Hartford

Buckles
The Hatheway Mfg Co (Dee Rings) — Bridgeport
The Hawie Mfg Co — Bridgeport
The G E Prentice Mfg Co — New Britain
John M Russell Mfg Co Inc — Naugatuck
B Schwanda & Sons — Staffordville
The Patent Button Co — Waterbury
The Waterbury Button Co — Waterbury

Buffing & Polishing Compositions
Apothecaries Hall Co — Waterbury
Lea Mfg Co — Waterbury

Buffing Wheels
The Williamsville Buff Mfg Co — Danielson

Buttons
B Schwanda & Sons — Staffordville
The Patent Button Co — Waterbury
Colt's Patent Fire Arms Mfg Co — Hartford
Scovill Manufacturing Co (uniform and tack fastened) — Waterbury
The Waterbury Button Co — Waterbury

Cabinets
The Charles Parker Co (medicine) — Meriden

Cable
The Wiremold Co (electric, non-metallic Sheathed) — Hartford

Cams
The Hartford Special Machinery Co — Hartford

Carpets and Rugs
Bigelow-Sanford Carpet Co — Thompsonville

Carpet Lining
Palmer Brothers Co — New London

Castings
The Charles Parker Co (gray iron) — Meriden
The Bradley & Hubbard Mfg Co (grey iron, brass, bronze, aluminum) — Meriden
The Gillette-Vibber Co (grey iron, brass, bronze, aluminum, also Bronze Bushing Stock) — New London
The Sessions Foundry Co (gray iron) — Bristol
John M Russell Mfg Co Inc (brass, bronze and aluminum) — Naugatuck
Malleable Iron Fittings Co (malleable iron and steel) — Branford
McLagon Foundry Co (gray iron) — New Haven
Newton-New Haven Co (zinc and aluminum) — 688 Third Ave West Haven
Philbrick-Booth & Spencer Inc (Grey Iron) — Hartford
Scovill Manufacturing Co (brass and bronze) — Waterbury
Vanadium Metals Co (brass, bronze and aluminum) — Groton
Union Mfg Co (gray iron) — New Britain
Wilcox Crittenden & Co Inc (gray iron and brass) — Middletown

Castings—Permanent Mould
The Bradley & Hubbard Mfg Co (zinc and aluminum) — Meriden

Centrifugal Blower Wheels
The Torrington Manufacturing Co — Torrington

Chain
John M Russell Mfg Co Inc — Naugatuck

Chains—Bead
The Bead Chain Mfg. Co. — Bridgeport

Chemicals
Apothecaries Hall Co — Waterbury
MacDermid Incorporated — Waterbury
American Cyanamid & Chemical Corp — Waterbury

Chromium Plating
Chromium Corp of America — Waterbury

Chucks & Face Plate Jaws
Union Mfg Co — New Britain

Clamps—Wood Workers
Sargent and Company — New Haven

Clay
Howard Company (Fire Howard "B" and High Temperature Dry) — New Haven

IT'S MADE IN CONNECTICUT

—CONTINUED—

Cleansing Compounds
MacDermid Incorporated Waterbury

Clutch Facings
The Russell Mfg Co Middletown

Clutch—Friction
The Carlyle Johnson Mach Co (Johnson Expanding Ring; Multiple Disc Maxitorq) Manchester
The Raybestos Div of Raybestos-Manhattan Inc (clutch facings—molded, woven, fabric, metallic) Bridgeport

Comfortables
Palmer Brothers Co New London

Cones
Sonoco Products Co (Climax-Lowell Div) (Paper) Mystic

Consulting Engineers
The Stanley P Rockwell Co Inc (Consulting) 296 Homestead Ave Hartford

Contract Manufacturers
The Greist Mfg Co (metal parts and assemblies) 503 Blake St New Haven

Copper
The American Brass Co (sheet, wire, rods, tubes) Waterbury
The Bristol Brass Corp (sheet) Bristol
Scovill Manufacturing Co (pipe and service tubing) Waterbury
The Thinsheet Metals Co (sheets and rolls) Waterbury

Copper Sheets
The New Haven Copper Co Seymour

Copper Shingles
The New Haven Copper Co Seymour

Copper Water Tube
Bridgeport Brass Co Bridgeport

Cork Cots
Sonoco Products Co (Climax-Lowell Div) Mystic

Corrugated Box Manufacturers
The Danbury Square Box Co Danbury

Corrugated Shipping Cases
D L & D Container Corp 87 Shelton Ave New Haven
Connecticut Corrugated Box Div Robert Gair Co Inc Portland

Cosmetics
Northam Warren Corporation Stamford
The J B Williams Co Glastonbury

Cotton Batting & Jute Batting
Palmer Brothers New London

Cotton and Jute Batting
The Gilman Brothers Company Gilman

Cotton Yarn
The Floyd Cranska Co Moosup

Counting Devices
Veeder-Root Inc Hartford

Cutlery
Remington Arms Co Inc Bridgeport

Cut Stone
The Dextone Co New Haven

Cutters
The Standard Machinery Co (rotary board, single and duplex) Mystic
The O K Tool Co Inc (inserted tooth milling) 33 Hull St Shelton

Dictating Machines
Dictaphone Corporation Bridgeport
The Soundscriber Corporation New Haven

Die Castings
Newton-New Haven Co Inc 688 Third Ave West Haven

Dies
The Hoggson & Pettis Mfg Co 141 Brewery St New Haven

Die-Heads—Self-Opening
The Eastern Machine Screw Corp Truman & Barclay Sts New Haven
The Geometric Tool Co New Haven

Dish Washing Machines
Colt's Patent Fire Arms Mfg Co Hartford

Draperies
Palmer Brothers Co New London

Drop Forgings
Wilcox Crittenden & Co Inc Middletown
The Blakeslee Forging Co Plantsville
Atwater Mfg Co Plantsville

Dowel Pins
The Allen Manufacturing Co. Hartford

Edged Tools
The Collins Co (axes and other edged tools) Collinsville

Elastic Webbing
The Russell Mfg Co Middletown

Electric Appliances
The Silex Co 80 Pliny St Hartford

Electric Cables
Rockbestos Products Corp (asbestos insulated) New Haven

Electrical Conduit Fittings & Grounding Specialties
The Gillette-Vibber Company New London

Electric Cords
Rockbestos Products Corp (asbestos insulated) New Haven

Electric Eye Control
United Cinephone Corporation Torrington

Electric—Commutators & Segments
The Cameron Elec Mfg Co (rewinding motors) Ansonia

Electric Fixture Wire
Rockbestos Products Corp (asbestos insulated) New Haven

Electric Heating Element & Units
Rockbestos Products Corp (asbestos insulated) New Haven

Electric Panel Boards
The Plainville Electrical Products Co Plainville

Electric Wire
Rockbestos Products Corp (asbestos insulated) New Haven
The Whitney Blake Co (Graybar Elec Co Exclusive Distributors) Hamden

Electrical Control Apparatus
The Trumbull Electric Mfg Co Plainville

Electrical Control Equipment
Colt's Patent Fire Arms Mfg Co Hartford

Electrical Recorders
The Bristol Co Waterbury

Electrical Goods
A C Gilbert Co New Haven
Colt's Patent Fire Arms Mfg Co Hartford

Electrical Switches
Colt's Patent Fire Arms Mfg Co Hartford

Electrotypes
W T Barnum & Co Inc (all classes)

Elevators New Haven
The Eastern Machinery Co (passenger and freight) New Haven
General Elevator Service Co Inc (freight, passenger and residence) Hartford

Embalming Chemicals
The Embalmers' Supply Co Westport

Engines
Wolverine Motor Works Inc (diesel stationary marine) Bridgeport
Pratt & Whitney Aircraft Div United Aircraft Corp (aircraft) East Hartford

Envelopes
Plimpton Mfg Co Div U S Envelope Co (Manufactures) Hartford
Curtis 1000 Inc Hartford

Extractors—Tap
The Walton Co 94 Allyn St Hartford

Eyelets
The Platt Bros & Co P O Box 1030 Waterbury
Scovill Manufacturing Co Waterbury
The Waterbury Button Co Waterbury

Fasteners—Slide & Snap
The G E Prentice Mfg Co New Britain
Sargent and Co New Haven
The Patent Button Co Waterbury
Scovill Manufacturing Co (snap) Waterbury

FELT—All Purposes
American Felt Co (Mills & Cutting Plant) Glenville

Ferrules
The Waterbury Button Co Waterbury

Fibre Board
The C H Norton Co North Westchester

Finger Nail Clippers
The H C Cook Co 32 Beaver St Ansonia

Firearms
Colt's Patent Fire Arms Mfg Co Hartford
Remington Arms Co Inc Bridgeport

Fire Hose
Fabrics Fire Hose Co (municipal and industrial)

Fireplace Goods Sandy Hook
The John P Smith Co (screens) 423-33 Chapel St New Haven
The Rostand Mfg Co Milford

Fireproof Floor Joists
The Dextone Co New Haven

Fishing Equipment
The Horton Mfg Co (reels, rods, lines) Bristol

Fishing Lines
The Bevin-Wilcox Line Co East Hampton

Fishing Tackle
The H C Cook Co 32 Beaver St Ansonia

Flashlight Cases
Scovill Manufacturing Co (metal) Waterbury

Fluorescent Lighting Equipment
The Wiremold Company Hartford

Forgings
Clark Brothers Bolt Co Milldale
Heppenstall Co (all kinds and shapes) Bridgeport
Scovill Manufacturing Co (non-ferrous) Waterbury

Foundries
Union Mfg. Co (gray iron) New Britain
Wilcox Crittenden & Co Inc (iron, brass, aluminum and bronze) Middletown
The Sessions Foundry Co (iron) Bristol

Foundry Riddles
The John P Smith Co 423-33 Chapel St New Haven
Rolock Inc (brass, galvanized, steel) Southport

Furniture—Anodic Aluminum
Warren McArthur Corporation Bantam

Furniture Pads
The Gilman Brothers Company Gilman

Fuses
Colt's Patent Fire Arms Mfg Co Hartford

Galvanizing & Electric Plating
The Gillette-Vibber Co. New London

Galvanizing
Malleable Iron Fittings Co Branford
Wilcox Crittenden & Co Inc Middletown

Gaskets
The Raybestos Div of Raybestos-Manhattan Inc Bridgeport

Gauges
The Bristol Co (pressure and vacuum—recording automatic control) Waterbury

Gears—Reverse & Reduction for Motor Boats
The Snow and Petrelli Mfg Co New Haven

Gears and Gear Cutting
The Hartford Special Machinery Co Hartford

Glass Coffee Makers
The Silex Co 80 Pliny St Hartford

Glass Cutters
The Fletcher Terry Co Box 415, Forestville

Golf Equipment
The Horton Mfg Co (clubs, shafts, balls, bags) Bristol

Graphite Crucibles & Products
American Crucible Co Shelton

Greeting Cards
A D Steinbach & Sons Inc New Haven

Grinding
The Centerless Grinding Co Inc (Precision custom grinding; centerless, cylindrical, surface, internal, and special) 19 Staples Street Bridgeport
The Hartford Special Machinery Co (gears, threads, cams and splines) Hartford

Hardware
Sargent and Co New Haven
Wilcox Crittenden & Co Inc (marine heavy and industrial) Middletown

Hardware—Trailer Cabinet
The Excelsior Hardware Co Stamford

Hardware, Trunk & Luggage
J H Sessions & Son Bristol

Hat Machinery
Doran Brothers Inc Danbury

Headers
The E J Manville Machine Co Waterbury

Heat Treating
The A F Holden Co 200 Winchester St New Haven
The Bennett Metal Treating Co 1045 New Britain Ave Elmwood
The Stanley P Rockwell Co Inc 296 Homestead Ave Hartford

Heat-Treating Equipment
The Autoyre Company Oakville
The A F Holden Co 200 Winchester St New Haven
The Stanley P Rockwell Co Inc (commercial) 296 Homestead Ave Hartford
The Wallace Barnes Co Div Associated Spring Corp Bristol

Heating Apparatus
Crane Company Bridgeport

Highway Guard Rail Hardware
Malleable Iron Fittings Co Branford

Hinges
Sargent and Company New Haven
Homer D Bronson Company Beacon Falls

Hoists and Trolleys
Union Mfg Company New Britain

Hollow Screws
The Allen Manufacturing Co. Hartford

Hose Supporter Trimmings
The Hawie Mfg Co (So-Lo Grip Tabs) Bridgeport

Hot Water Heaters
Petroleum Heat & Power Co (Instantaneous domestic oil burner) Stamford

Industrial Finishes
Zapon Div Atlas Powder Co Stamford

Insecticides
American Cyanamid & Chemical Corp Waterbury

Insulated Wire Cords & Cable
The Kerite Insulated Wire & Cable Co Inc Seymour
The Whitney Blake Co (Graybar Elec Co Exclusive Distributors) Hamden

Japanning
J H Sessions & Son Bristol

Jointing
The Raybestos Div of Raybestos-Manhattan Inc (compressed sheet) Bridgeport

(Advt.)

IT'S MADE IN CONNECTICUT

—CONTINUED—

Key Blanks
Sargent and Company — New Haven
The Graham Mfg Co — Derby

Knit Goods
American Hosiery Company — New Britain

Labels
J & J Cash Inc (Woven) — South Norwalk

Lacquers & Synthetic Enamels
Zapon Div Atlas Powder Co — Stamford

Ladders
A W Flint Co — 196 Chapel St New Haven

Lamps
The Rostand Mfg Company (brass, colonial style & brass candlesticks) — Milford

Leather
Herman Roser & Sons Inc (Genuine Pigskin) — Glastonbury

Leather Goods Trimmings
The G E Prentice Mfg Co — New Britain

Letterheads
Lehman Brothers Inc (designers, engravers, lithographers) — New Haven

Lighting Equipment
The Miller Co (Miller, Duplexalite, Ivanhoe) — Meriden
The Waterbury Button Co — Waterbury

Locks
Sargent and Company — New Haven

Locks—Cabinet
The Excelsior Hardware Co — Stamford

Locks—Suit-case and Trimmings
The Excelsior Hardware Co — Stamford

Locks—Trunk
The Excelsior Hardware Co — Stamford

Locks—Zipper
The Excelsior Hardware Co — Stamford

Loom-Non-Metallic
The Wiremold Company — Hartford

Machine Work
The Hartford Special Machinery Co (contract work only) — Hartford
The Torrington Manufacturing Co (special rolling mill machinery) — Torrington

Machinery
The Hallden Machine Company (mill) — Thomaston
The Torrington Manufacturing Co. (mill) — Torrington
The Standard Machinery Co (bookbinders) — Mystic

Machinery Dealers & Rebuilders
Botwinik Brothers — New Haven
Machinery Dealers Inc — New Haven

Machines
Andrew C Campbell Div American Chain & Cable Co Inc (cutting & nibbling) — Bridgeport
The Patent Button Company — Waterbury

Machines—Automatic
The A H Nilson Mach Co (Special) — Bridgeport

Machines—Forming
The A H Nilson Mach Co (four-slide wire and ribbon stock) — Bridgeport

Malleable Iron Castings
Malleable Iron Fittings Co — Branford

Marine Equipment
The Rostand Mfg Co (portlights, deck, cabin and sailboat hardware) — Milford
Wilcox Crittenden & Co Inc — Middletown

Marking Devices
The Hoggson & Pettis Mfg Co — New Haven

Matrices
W T Barnum & Co Inc — New Haven

Mattresses
Palmer Brothers Co — New London
Waterbury Mattress Co — Waterbury

Metal Cleaners
Apothecaries Hall Co — Waterbury

Metal Cleaning Machines
Colt's Patent Fire Arms Mfg Co — Hartford

Metal Goods
Bridgeport Brass Co (to order) — Bridgeport

Metal Novelties
The H C Cook Co — 32 Beaver St Ansonia
The Waterbury Button Co — Waterbury

Metal Products—Stampings
J H Sessions & Son — Bristol
Scovill Manufacturing Co (Made to Order) — Waterbury

Metal Specialties
The Excelsior Hardware Co — Stamford
The G E Prentice Mfg Co — New Britain

Metal Stampings
The Autoyre Co (small) — Oakville
The Patent Button Co — Waterbury
The Excelsior Hardware Co — Stamford
J H Sessions & Son — Bristol
The H C Cook Co — 32 Beaver St Ansonia
The Greist Mfg Co — 503 Blake St New Haven
The Waterbury Button Co — Waterbury

Milk Bottle Carriers
The John P Smith Co 323-33 Chapel St — New Haven

Millboard
The Raybestos Div of Raybestos-Manhattan Inc (asbestos) — Bridgeport

Mill Supplies
Wilcox Crittenden & Co Inc — Middletown

Moulded Plastic Products
Colt's Patent Fire Arms Mfg Co — Hartford
The Watertown Mfg Co 117 Echo Lake Road — Watertown

Moulds
The Hoggson & Pettis Mfg Co (steel) 141 Brewery St — New Haven
The Sessions Foundry Co. (heat resisting for non ferrous metals) — Bristol

Nickel Anodes
Apothecaries Hall Co — Waterbury
The Seymour Mfg Co — Seymour

Nickel Silver
The Seymour Mfg Co — Seymour

Nuts Bolts and Washers
Clark Brothers Bolt Co — Milldale

Office Equipment
Underwood Elliott Fisher Co — Hartford

Oil Burners
Malleable Iron Fittings Co — Branford
The Silent Glow Oil Burner Corp 1477 Park St — Hartford
Petroleum Heat & Power Co (domestic commercial and industrial) — Stamford

Oil Burner Wick
The Raybestos Div of Raybestos-Manhattan Inc — Bridgeport

Oxygen
National Cylinder Gas Company — Meriden

Packing
The Raybestos Div of Raybestos-Manhattan Inc (rubber sheet and automotive) — Bridgeport

Paints and Enamels
The Tredennick Paint Mfg Co — Meriden

Paperboard
Connecticut Corrugated Box Div Robert Gair Co Inc — Portland
The New Haven Pulp & Board Co — New Haven

Paper Boxes
National Folding Box Co (folding) — New Haven
The New Haven Pulp & Board Co — New Haven
Robertson Paper Box Co (folding) — Montville

Paper Clips
The H C Cook Co (steel) 32 Beaver St — Ansonia

Paper Tubes and Cores
Sonoco Products Co (Climax-Lowell Div) — Mystic

Parallel Tubes
Sonoco Products Co (Climax-Lowell Div) — Mystic

Pharmaceutical Specialties
Ernst Bischoff Company Inc — Ivoryton

Phosphor Bronze
The Seymour Mfg Co — Seymour
The Bristol Brass Corp (sheet) — Bristol

Pipe
The American Brass Co (brass and copper) — Waterbury
Howard Co (cement well and chimney) — New Haven
Crane Company (fabricated) — Bridgeport
Bridgeport Brass Co (brass & copper) — Bridgeport
Scovill Manufacturing Co (copper, red brass and yellow brass) — Waterbury

Pipe Fittings
Malleable Iron Fittings Co — Branford

Platers
The Patent Button Co — Waterbury
The Plainville Electro Plating Co — Plainville

Platers—Chrome
The Plainville Electro Plating Co — Plainville

Platers' Equipment
MacDermid Incorporated — Waterbury

Plumbers' Brass Goods
Bridgeport Brass Co — Bridgeport
Scovill Manufacturing Co — Waterbury

Plumbing Specialties
John M Russell Mfg Co Inc — Naugatuck

Pole Line
Malleable Iron Fittings Co — Branford

Polishing Wheels
The Williamsville Buff Mfg Co — Danielson

Presses
The Standard Machinery Co (plastic molding, embossing, and die cutting) — Mystic

Propellers—Aircraft
Hamilton Standard Propellers Div United Aircraft Corp — East Hartford

Propeller Fan Blades
The Torrington Manufacturing Co — Torrington

Punches
The Hoggson & Pettis Mfg Co (ticket & cloth) 141 Brewery St — New Haven

Putty Softeners—Electrical
The Fletcher Terry Co — Box 415 Forestville

Pyrometers
The Bristol Co (recording and controlling) — Waterbury

Radiation-Finned Copper
The G & O Manufacturing Company — New Haven

Railroad Equipment
The Rostand Mfg Co (baggage racks and mirrors for passenger cars) — Milford

Rayon Yarns
The Hartford Rayon Corp — Rocky Hill

Razors
Schick Dry Shaver Inc (electric) — Stamford

Reamers
The O K Tool Co Inc (inserted tooth) 33 Hull St — Shelton

Recorders
The Bristol Co (automatic controllers, temperature, pressure, flow, humidity) — Waterbury

Refractories
Howard Company — New Haven

Resistance Wire
The C O Jelliff Mfg Co (Nickel chromium, kanthal) — Southport

Retainers
The Hartford Steel Ball Co (bicycle & automotive) — Hartford

Reverse Gear—Marine
The Carlyle Johnson Mach Co — Manchester

Riveting Machines
The Grant Mfg & Machine Co — Bridgeport
The Raybestos Div of Raybestos-Manhattan Inc (brake service equipment) — Bridgeport

Rivets
The Connecticut Manufacturing Company — Waterbury
Clark Brothers Bolt Co — Milldale
The Blake & Johnson Co (brass, copper and non-ferrous) — Waterville
J H Sessions & Son — Bristol
The Raybestos Div of Raybestos-Manhattan Inc (brass and aluminum tubular and solid copper) — Bridgeport
The Raybestos Div of Raybestos-Manhattan Inc (iron) — Bridgeport

Rods
The Bristol Brass Corp (brass and bronze) — Bristol

Roof Coatings & Cements
Tilo Roofing Co Inc — Stratford

Roofing—Built Up
Tilo Roofing Co Inc — Stratford

Rubber Chemicals
The Stamford Rubber Supply Co ("Factice" Vulcanized Vegetable Oils) — Stamford

Rubberized Fabrics
The Duro-Gloss Rubber Co — New Haven

Rubber Footwear
The Goodyear Rubber Co — Middletown
United States Rubber Prod Inc (Keds, Kedettes, Gaytees, U S Royal Footwear) — Naugatuck

Rubbish Burners
The John P Smith Co 423-33 Chapel St — New Haven

Safety Fuses
The Ensign-Bickford Co (mining & detonating) — Simsbury

Saw Blades
The Capewell Mfg Co (Hack Saw, Band Saw) — Hartford

Scales-Industrial Dial
The Kron Company — Bridgeport

Scissors
The Acme Shear Company — Bridgeport

Screw Machine Products
The Connecticut Manufacturing Company — Waterbury
Corbin Screw Div, American Hardware Corp — New Britain
The Blake & Johnson Co — Waterville
The Centerless Grinding Co Inc (Heat treated and ground type only) 19 Staples Street — Bridgeport
The Eastern Machine Screw Corp Truman & Barclay St — New Haven
The Humason Mfg Co — Forestville
The Greist Mfg Co (Up to 1⅛" capacity) — New Haven
Scovill Manufacturing Co — Waterbury

Screws
The Blake & Johnson Co (machine) — Waterville
Corbin Screw Div, American Hardware Corp — New Britain
Sargent and Company — New Haven
Clark Brothers Bolt Co — Milldale
The Charles Parker Co (wood) — Meriden
Scovill Manufacturing Co (cap and machine) — Waterbury

(Advt.)

IT'S MADE IN CONNECTICUT

—CONTINUED—

Screws (Machine)
The Connecticut Manufacturing Company Waterbury

Scythes
Winsted Manufacturing Co Winsted

Sewing Machines
The Greist Mfg Co (Sewing machine attachments) 503 Blake St New Haven
The Merrow Machine Co (Industrial) 2814 Laurel St Hartford

Shaving Soaps
The J B Williams Co Glastonbury

Shears
The Acme Shear Co (household) Bridgeport

Sheet Metal Products
The American Brass Co (brass and copper) Waterbury

Sheet Metal Stampings
The American Buckle Co West Haven
The Patent Button Co Waterbury
J H Sessions & Son Bristol

Showcase Lighting Equipment
The Wiremold Company Hartford

Signals
The H C Cook Co (for card files) 32 Beaver St Ansonia

Silks
Cheney Brothers South Manchester

Silverware
International Silver Co (tableware, nickel silver, silver plate and sterling) Meriden

Silverware—Hotel & Institutional
International Silver Co Meriden

Silverware—Plated Hollowware
International Silver Co Meriden

Silverware—Sterling & Plated Trophies
International Silver Co Meriden

Silverware—Sterling Silver Hollowware
International Silver Co Meriden

Silverware—Tableware, Silver
International Silver Co Meriden

Silverware—Tableware, Silver Plate
International Silver Co Meriden

Silverware—Tableware, Sterling
International Silver Co Meriden

Sizing and Finishing Compounds
American Cyanamid & Chemical Corp Waterbury

Smoke Stacks
The Bigelow Company (steel) New Haven

Soap
The J B Williams Co (industrial soaps, toilet soaps, shaving soaps) Glastonbury

Special Parts
The Greist Mfg Co (small machined, especially precision stampings) 503 Blake St New Haven

Sponge Rubber
The Sponge Rubber Products Co Derby

Spreads
Palmer Brothers Company New London

Spring Coiling Machines
The Torrington Manufacturing Co Torrington

Spring Units
Owen Silent Spring Co Inc (mattresses and upholstery furniture) Bridgeport

Spring Washers
The Wallace Barnes Co Div Associated Spring Corp Bristol

Springs—Coil & Flat
The Humason Mfg Co Forestville
The Wallace Barnes Co Div Associated Spring Corp Bristol

Springs—Flat
The Wallace Barnes Co Div Associated Spring Corp Bristol

Springs—Furniture
Owen Silent Spring Co Inc Bridgeport

Springs—Wire
The Wallace Barnes Co Div Associated Spring Corp Bristol

Springs, Wire & Flat
The Autoyre Company Oakville

Stair Pads
Palmer Brothers Company New London

Stamps
The Hoggson & Pettis Mfg Co (steel) 141 Brewery St New Haven

Stampings—Small
The Greist Manufacturing Co New Haven
The Wallace Barnes Co Div Associated Spring Corp Bristol

Staples
Sargent and Company New Haven

Steel Castings
The Hartford Electric Steel Co (carbon and alloy steel) 540 Flatbush Ave Hartford
Malleable Iron Fittings Co Branford
Nutmeg Crucible Steel Co Branford

Steel—Cold Rolled Spring
The Wallace Barnes Co Div Associated Spring Corp Bristol

Steel—Cold Rolled Stainless
Wallingford Steel Company Wallingford

Steel—Cold Rolled Strip and Sheets
Wallingford Steel Company Wallingford

Steel Goods
Scovill Manufacturing Co (To Order) Waterbury

Steel—Magnetic
Cinaudagraph Corporation Stamford

Stereotypes
W T Barnum & Co Inc New Haven

Stop Clocks, Electric
The H C Thompson Clock Co Bristol

Studio Couches
Waterbury Mattress Co Waterbury

Surface Metal Raceways & Fittings
The Wiremold Company Hartford

Switchboards
Plainville Electrical Products Co Plainville

Switchboards Wires and Cables
Rockbestos Products Corp (asbestos insulated) New Haven

Switches
Colt's Patent Fire Arms Mfg Co Hartford

Tableware—Stainless Steel
International Silver Co Meriden

Tanks
The Bigelow Company (steel) New Haven

Tape
The Russell Mfg Co Middletown

Tap Extractors
The Walton Co 94 Allyn St Hartford

Taps, Collapsing
The Geometric Tool Co New Haven

Tarred Lines
Brownell & Co Inc Moodus

Telemetering Instruments
The Bristol Co Waterbury

Textile Machinery
The Merrow Machine Co 2814 Laurel St Hartford

Textile Mill Supplies
Ernst Bischoff Company Inc Ivoryton

Textile Processors
The Aspinook Corp (cotton) Jewett City

Thermometers
The Bristol Co (recording and automatic control) Waterbury

Thin Gauge Metals
The Thinsheet Metals Co (plain or tinned in rolls) Waterbury

Thread
Max Pollack & Co Inc Groton
The American Thread Co Willimantic
The Gardiner Hall Jr Co (cotton sewing) South Willington

Threading Machines
The Grant Mfg & Machine Co (double and automatic) Bridgeport

Time Recorders
Stromberg Time Corp Thomaston

Timers, Interval
The H C Thompson Clock Co Bristol

Tinning
Wilcox Crittenden & Co Inc Middletown
The Thinsheet Metals Co (non-ferrous metals in rolls) Waterbury

Tools
The Hoggson & Pettis Mfg Co (rubber workers) 141 Brewery St New Haven
The O K Tool Co Inc (inserted tooth metal cutting) 33 Hull St Shelton

Tools, Dies & Fixtures
The Greist Mfg Co New Haven

Toys
A C Gilbert Company New Haven
The Gong Bell Co East Hampton
The N N Hill Brass Co East Hampton

Trucks—Lift
The Excelsior Hardware Co Stamford

Trucks—Skid Platforms
The Excelsior Hardware Co (lift) Stamford

Tube Clips
The H C Cook Co (for collapsible tubes) 32 Beaver St Ansonia

Tubing
The American Brass Co (brass and copper) Waterbury
Scovill Manufacturing Co (copper alloys) Waterbury

Tubing—Condenser
Scovill Manufacturing Co Waterbury

Typewriters
Underwood Elliott Fisher Co Hartford

Typewriter Ribbons
Underwood Elliott Fisher Co Hartford

Underclearer Rolls
Sonoco Products Co (Climax-Lowell Div) Mystic

Vacuum Cleaners
The Spencer Turbine Co Hartford

Valves—Automatic Air
Beaton & Cadwell Mfg Co New Britain

Valves—Flush
Beaton & Cadwell Mfg Co New Britain

Valves—Relief & Control
Beaton & Cadwell Mfg Co New Britain

Ventilating Systems
Colonial Blower Company Hartford

Vises
The Charles Parker Co Meriden

Washers
The Blake & Johnson Co (brass, copper & non-ferrous) Waterville
American Felt Co (felt) Glenville
Clark Brothers Bolt Co Milldale
The Sessions Foundry Co (cast iron) Bristol
J H Sessions & Son Bristol
The Raybestos Div of Raybestos-Manhattan Inc (clutch washers) Bridgeport

Watches
Benrus Watch Co 30 Cherry St Waterbury

Waterproof Dressings for Leather
The Viscol Company Stamford

Webbing
The Russell Mfg Co Middletown

Welding Rods
The Bristol Brass Corp (brass & bronze) Bristol

Wicks
The Russell Mfg Co Middletown
The Raybestos Div of Raybestos-Manhattan Inc (oil burner wicks) Bridgeport

Wire
The Bristol Brass Corp (brass & bronze) Bristol
The Driscoll Wire Co (steel) Shelton
Hudson Wire Co Winsted Div (insulated & enameled magnet) Winsted
The Atlantic Wire Co (steel) Branford
The Platt Bros & Co (zinc wire) P O Box 1030 Waterbury
Rockbestos Products Corp (asbestos insulated) New Haven
Scovill Manufacturing Co (brass, bronze and nickel silver) Waterbury

Wire Arches and Trellis
The John P Smith Co 423-33 Chapel St New Haven

Wire Baskets
Rolock Inc (for acid, heat, degreasing) Southport

Wire Cable
The Bevin-Wilcox Line Co (braided) East Hampton

Wire Cloth
The C O Jelliff Mfg Co (All metals, all meshes) Southport
The John P Smith Co 423-33 Chapel St New Haven

Wire Drawing Dies
The Waterbury Wire Die Co Waterbury

Wire Dipping Baskets
The John P Smith Co 423-33 Chapel St New Haven

Wire Formings
The Autoyre Co Oakville

Wire Forms
The Humason Mfg Co Forestville
The Wallace Barnes Co Div Associated Spring Corp Bristol

Wire Goods
The Patent Button Co Waterbury
The American Buckle Co (overall trimmings) West Haven
Scovill Manufacturing Co (To Order) Waterbury

Wire Mesh
Rolock Inc (all meshes and metals) Southport

Wiremolding
The Wiremold Company Hartford

Wire Nuts—Solderless
The Wiremold Company Hartford

Wire Reels
The A H Nilson Mach Co Bridgeport

Wire Partitions
The John P Smith Co 423-33 Chapel St New Haven

Wire Rings
The American Buckle Co (pan handles and tinners' trimmings) West Haven

Woodwork
C H Dresser & Son Inc (Mfg all kinds of woodwork) Hartford

Yarns
The Ensign-Bickford Co (jute carpet) Simsbury

Zinc
The Platt Bros & Co (ribbon, strip and wire) P O Box 1030 Waterbury

Zinc Castings
Newton-New Haven Co Inc 688 Third Ave West Haven

(Advt.)

SERVICE SECTION

FOR SALE—RENT—WANTED

FOR SALE OR RENT—In commercial zone, 1/3 acre land on corner, with brick building 40 x 40, all enclosed with high Anchor wire fence, near railroad siding. Special price for quick sale. Address S. E. 161.

FOR SALE—One ton Electric Triplex Hoist, 220 volts, 14 feet lift. S. E. 162.

FOR SALE—Pratt & Whitney screw cutting lathe, 18" x 5' with taper attachment. First-class condition except that it has no change gears. S. E. 163.

FOR SALE one virtually brand new 24" Coulter shaping planer, complete with motor and various attachments. Address S. E. 164.

FOR SALE large factory building, two stories high, brick and steel beam construction, adjoining main building one story high. Rear of main building is a wooden storehouse, office building, with two-car wooden garage. Land joins office building which is being surveyed. Large water tank on brick standard; two steam boilers of 125 H. P. each, one Corliss steam engine and outside electric power lines connected to mill; automatic sprinklers and ample supply of pond water from large reservoir. For more information address S. E. 165.

FOR SALE AT BARGAIN. Brick Mill 150 x 42, three stories high, 15,000 square feet. Floor Space, 11 acres of land, 75 acres of water in reservoir with all water rights, Water power at mill is 75 H.P., 49' fall, Bradway 15" wheel, one 72" H.R.T. boiler with 128 H.P. Corliss Steam Engine. Located in Eastern Connecticut. About 40 miles from Hartford. Apply A. R. Pinney, 168 Edgewood Ave., Longmeadow, Mass.

WANTED—A water heater for heating raw river water, for use in beater room of paper mill. In submitting your offer please give full details and specifications, and also capacity. Address S. E. 168.

FOR SALE—3,700 lbs. 21/32" Dia. Cold Drawn Steel Screw Stock, 12' 11" lengths. Address S. E. 169.

EMPLOYMENT

SALESMAN: Three years selling experience; 27; married, one child; good pushing salesman with background of experience covering retail and department store trade. Address P. W. 614. (Ind.)

POSITION WANTED. Alert, resourceful, thoroughly experienced in organizing production planning and control systems and plant lay-out work. College graduate, 20 years with two leading manufacturers. Available now. Address P. W. 619.

ACCOUNTANT. Experienced in cost and general accounting, capable of filling an executive position. Ten years successful record as manager of works accounting, budget control, stock control, general and private ledgers. Proficient in the handling of employees. Address P. W. 621.

PLANT MANAGER-SUPERINTENDENT. Thorough mechanic and seasoned executive with experience covering from the building and organization of a plant to the delivery of the finished product. Will interview principals only. Record and credentials of a high order. Address P. W. 622. (Ind.)

POSITION WANTED. As superintendent with woolen or worsted mill, experienced in all departments from wool scouring up to and including finishing operations on all types finishes. Also experienced as textile engineer, making surveys, research and development work. American, age 52. Address P. W. 623.

UNDERGRADUATE NURSE. Graduate of a class A school of physical therapy desires position as physiotherapist in an industrial concern. Eight years exprience in the treatment of industrial injuries and nine years experience in all branches of physical therapy including massage and corrective exercises. Address P. W. 624.

PRODUCTION WORK WANTED . . . Seven years experience with Connecticut manufacturer . . . have applied time study . . . familiar with filling defense contracts . . . penalties, etc. attached to same . . . 31 years of age and single . . . interviews appreciated . . . Address P. W. 625.

INDUSTRIAL CAFETERIA MANAGER, thoroughly competent executive, many years' experience as chief of large commissaries, U. S. Navy and industrial; complete knowledge layout, purchase, installation of equipment, food preparation and service; shrewd buyer foodstuffs and supplies, planning economical, wholesome, appetizing menus, food cost control, dietetics; capable supervising several units. Highest credentials. Available now. Address P. W. 626.

EXECUTIVE—Market-Minded. Knows advertising, sales management and co-ordination with production. Has been active, both large and small business. As assistant to president, has been trouble shooter in large organization. Has built national distributing forces. Understands people, customer relations. Excellent styling sense. Export in market and product research for long-range planning. Address P. W. 627.

GRADUATE of Georgetown University Law School. Extensive law experience. Also corporate, personal and other tax work, general corporate, contract, estate, real estate, banking, etc. Business experience as well as legal. Interested in business and legal work connected with armament or munition. Address P. W. 628.

ELECTRICAL ENGINEERS GENERAL CONSTRUCTION and Plant Installation experience. Familiar with mechanical and building trades. Interested in Plant Engineering and Maintenance. Address P. W. 629.

EDITORIAL—Experienced newspaper and magazine writer desires permanent connection as member of editorial staff of a house organ or field magazine. He has a well established name as a columnist. Desires to locate in vicinity of Hartford. Address P. W. 630.

GRADUATE of Wesleyan University and Columbia University Graduate School of Journalism; four years experience as newspaper reporter and copy editor; hard, accurate, efficient worker; age 27, married, good health; seeks public and employee relations work handling publicity, company and employee publications, et cetera. Address P. W. 631.

EXPERIENCED FOUNDRY LABORER aged 34, and a **BRASS CASTER,** aged 48, are now available for work in the Bridgeport area. Address P. W. 632.

A MAN 34 years of age with a B.S. Degree and five years experience as an organic chemist seeks a position in a Connecticut industry. For further details address P. W. 633.

A BENCH MOLDER aged 39 living in the Bridgeport area seeks a position in a foundry, preferably near his home. Address P. W. 634.

"NO TRAINING needed for me to go back into the brass business to replace drafted man. Practical experience all operations important shop accounting." Address P. W. 635.

FACTORY in Waterbury, Conn. employing between 500 and 600 employees interested in contacting a man with training in personnel work. Address P. W. 636.

PURCHASING AGENT or Assistant Experienced Metal Trades and Textiles. Address P. W. 637.

ACCOUNTANT-EXECUTIVE. Available for responsible position with substantial organization. Twenty years diversified Public Accounting, Business Management and Tax Experience. Efficient Budget and Cost Systematizer. Economical administrator. Aggressive organizer. Concise report writer. Tactful Conferee. Pleasant Personality. Member—New York State Society of CERTIFIED PUBLIC ACCOUNTANTS. Salary: $6500. Address P. W. 638.

PRODUCTION MANAGER, associated at present with large manufacturer of precision made products, employing approximately 500 people. 20 years' experience in plant management, tool and die design and construction, costs, methods, production control, purchasing and industrial relations. Thorough technical background in mechanical engineering, cost accounting, business administration and factory management. Age 45, married, seeks position as factory manager or works manager with a progressive manufacturing concern. Address P. W. 639.

ACCOUNTANT-AUDITOR—A former Connecticut bank executive age 47 with over 25 years experience in all branches of accounting and office management would like position with manufacturing concern, insurance company or other individual or corporation where his services would be of value. Address. P. W. 640.

GRADUATE of New York University, B.C.S. Degree, 23 years experience in general and cost accounting, office management, chief accountant and statistician, general plant and factory accountant, desires work in similar fields, preferably in New England. Address P. W. 641.

FAR EASTERN SPECIALIST with years of resident experience, seeks connection with foresighted manufacturer, to prepare for development in that field after the war. Address P. W. 642 Ind.

ENERGETIC MAN, 35 seeks connection with Metal Fabricating Firm. Can take complete charge of plant. Has practical background in all phases of Tooling, Engineering, Purchasing, Methods, Estimating, Production, General Supervision and Training. Address P. W. 643.

CHEMICAL AND MECHANICAL ENGINEER. Experienced in fuels, combustion, oil burners,—steam, hot water and hot air heating —lubricants, desires technical, sales, service or maintenance position on salaried basis. Address P. W. 644.

CHEMICAL ENGINEER with 25 years as analytical research and development chemist, also manufacturing experience. Address P. W. 645 Ind.

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